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HENDERSON'S FARMERS MANUAL

1893
AMERICAN
FARMERS MANUAL

PETER HENDERSON & Co
35 & 37 Cortlandt St.
NEW YORK

JOHN C. RANKIN CO., 34 CORTLANDT ST., N.Y.

T.L.P.

This list cancels all previous offers.

INDEX

AND TABLE OF QUANTITIES REQUIRED PER ACRE.

	Page.	Sow (if alone) per acre.		Page.	Sow (if alone) per acre.
Agrostis stolonifera—See Creeping Bent.....	4	2 bushels.		12	12 lbs.
" canina—See R. I. Bent.....	4	3 bushels.		12	14 lbs.
" vulgaris—See Red Top.....	5	3 bushels.		4	3 to 4 bushels.
Afilaria.....	24			7	$\frac{1}{2}$ bushels.
Alopecurus pratensis—See Meadow Foxtail.....	4	3 to 4 bushels.		7	12 to 14 lbs.
Anthoxanthum odoratum—See Sweet Vernal, peren'l.	5	$\frac{3}{2}$ bushels.		9	15 lbs.
Avena fatescens—See Yellow Oat Grass.....	8	3 bushels.		12	12 lbs.
" elatior—See Tall Meadow Oat Grass.....	4	4 to 5 bushels.		13	4 to 5 lbs.
Arrhenatherum avenaceum—See Tall Meadow Oat Grass.....	4	4 to 5 bushels.		13	$\frac{1}{2}$ to 1 bushel.
Awnless Bröme Grass.....	13	35 lbs.		13	Drills, 5 to 6 lbs.
Alsfike or Hybrid Clover.....	9	8 lbs.		20	Broadcast, 8 lbs.
Alfalfa Clover.....	12	12 lbs.		9	6 to 8 lbs.
Artichokes.....	23	8 to 10 bushels.		12	15 lbs.
Beet Sugar.....	21	12 to 15 lbs.		24	5 to 6 bushels.
Bermuda Grass.....	10	$\frac{1}{4}$ bushel.		5	3 to 4 bushels.
Bromus inermis—See Awnless Bröme Grass.....	11	35 lbs.		18	3 bushels.
Book, "How the Farm Pays.".....Last page cover				7	2 bushels.
Bokhara Clover.....	9	10 lbs.		8	2 to 3 bushels.
Broom Corn.....	13	6 to 8 qts.		8	2 to 3 bushels.
Buckwheat.....	17	1 bushel.		8	2 to 3 bushels.
Barley.....(Sow broadcast, 2 to $2\frac{1}{2}$ bushels)	17	$1\frac{1}{2}$ to 2 bus. drilled.		5	$\frac{1}{2}$ bushels.
Beans, Field.....	24	1 bushel drilled.		10	(Seed, $\frac{1}{2}$ bushel.
Cynodon dactylon—See Bermuda Grass.....	10	$\frac{1}{4}$ bushel.		(Sets, 20,000.	
Creeping Bent or Fiorin.....	4	2 bushels.		8	$\frac{1}{2}$ to 1 bushel.
Crested Dog's Tail.....	8	$1\frac{1}{2}$ bushels.		10	(Seed, $\frac{1}{2}$ bushel.
Cynosurus cristatus—See Crested Dog's Tail.....	8	$1\frac{1}{2}$ bushels.		(Sets, 20,000.	
Clovers.....	9	8 to 14 lbs.		19	12 to 14 bushels.
" for the South.....	12	10 to 20 lbs.		24	1 to 2 lbs.
Cow Grass—See Mammoth Red Clover.....	9	12 to 14 lbs.		23	3 bushels.
Crimson or Carnation—See Scarlet Clover.....	9	14 lbs.		23	3 bushels.
Corn, Egyptian Rice.....	13	6 lbs.		9	12 to 14 lbs.
" Dent and Flint.....		8 to 10 qts.		9	12 to 14 lbs.
" Fodder.....		Broadcast, 3 bu.		9	12 to 14 lbs.
" Pop.....	15	Drilled, $1\frac{1}{2}$ bu.		9	3 bushels.
Carrots.....	15	6 to 8 qts.		5	3 bushels.
Cabbage for stock.....	23	4 lbs.		4	3 bushels.
Chicory.....	23	$\frac{1}{2}$ lb. to transplant.		6	$2\frac{1}{2}$ bushels.
Cotton.....	24	8 lbs.		5	$1\frac{1}{2}$ bushels.
Dactylis glomerata—See Orchard Grass.....	5	3 to 4 bushels.		9	10,000 plants p'ac're
Douras.....	13	4 to 5 lbs.		10	1 bushel.
English Blue Grass—See Meadow Fescue.....	7	$\frac{1}{2}$ bushels.		5	$3\frac{1}{2}$ bushels.
" or Perennial Rye Grass.....	7	$2\frac{1}{2}$ to 3 bushels.		6	2 to 3 bushels.
Egyptian Rice Corn.....	13	6 lbs.		8	2 to 3 bushels.
Festuca elatior—See Tall Meadow Fescue.....	6	$\frac{1}{2}$ bushels.		9	3 bushels.
" heterophylla—See Various Leaved Fescue.....	6	3 bushels.		9	3 bushels.
" ovina—See Sheep's Fescue.....	6	$\frac{1}{2}$ bushels.		9	3 bushels.
" tenuifolia—See Fine Leaved Sheep's Fes.	6	3 bushels.		6	2 to 3 bushels.
" pratensis—See Meadow Fescue.....	7	$\frac{1}{2}$ bushels.		8	10 lbs.
" rubra—See Red Fescue.....	6	$\frac{1}{2}$ bushels.		23	20 to 30 lbs.
" duriuscula—See Hard Fescue.....	5	$\frac{1}{2}$ bushels.		9	14 lbs.
Fine Leaved Sheep's Fesone.....	6	3 bushels.		12	4 to 5 bu. Drills.
Fowl Meadow Grass.....	8	3 bushels.		13	4 to 6 lbs.
Fenugreek.....	23	20 to 30 lbs.		13	12 to 15 lbs.
Fertilizers.....				21	4 to 6 lbs.
Flax Seed.....	24	$\frac{1}{2}$ to $\frac{1}{4}$ bushel.		13	4 qts.
Fiorin—See Creeping Bent.....	4	2 bushels.		9	8 lbs.
Grasses, various.....	4 to 8	3 to 4 bushels.		10	(Seed, $\frac{1}{2}$ bushel.
" Permanent Pasture Mixtures.....	2	10 lbs.		(Sets, 20,000.	
" " " Clover, for above.....	2	1 to 3 bushels.		4	10,000 plants p'ac're
" Temporary Pasture Mixtures.....	3	10 lbs.		6	4 to 5 bushels.
" " " Clover, for above.....	3	1 bushel.		8	$\frac{1}{2}$ to 1 bushel.
" Renovating Mixture.....	3	4 to 5 bushels.		9	12 to 14 lbs.
" " " Henderson" Lawn Mixture.....	25	4 to 5 bushels.		9	12 to 14 lbs.
" " " Sunny South" Lawn Grass.....	25	4 to 5 bushels.		9	8 lbs.
" " " Terrace Sod Mixture.....	25	4 to 5 bushels.		9	10 lbs.
" " " for the South.....	10	3 bushels.		9	14 lbs.
Herd's Grass (of the South)—See Red Top.....	5	$\frac{1}{2}$ bushel.		9	14 lbs.
" (of the North)—See Timothy.....	8	$\frac{1}{2}$ to 1 bushel.		9	8 lbs.
Hungarian Grass—See Hungarian Millet.....	13	$\frac{1}{2}$ to 1 bushel.		13	6 to 8 lbs.
Hard Fescue.....	5	$2\frac{1}{2}$ bushels.		22	2 to 3 lbs.
" How the Farm Pays.".....Last page of cover				22	10 lbs.
Insecticides.....				23	2 bushels.
Italian Rye Grass.....	7	3 bushels.		24	10,000 plants p'r acre
June Grass—See Kentucky Blue.....	8	2 to 3 bushels.		23	2 bushels.
" Clover—See Red Clover.....	9	8 to 10 lbs.		24	$\frac{1}{2}$ bushel.
Japan Clover.....	12	14 lbs.		6	3 bushels.
Johnson Grass.....	10	1 bushel.		8	2 bushels.
Kale for stock.....	23	6 to 7 lbs.		9	2 bushels.
Kaffir Corn.....	13	4 to 5 lbs.		7	8 lbs.
Kentucky Blue Grass.....	8	2 to 3 bushels.		9	1 bushel.
Louisiana Grass.....	10	(Seed, $\frac{1}{4}$ bushel.		6	3 bushels.
Lupins.....		(Sets, 20,000.		6	3 bushels.
Lolium italicum—See Italian Rye Grass.....	23	2 to 3 bushels.		7	2 bushels.
" perenne—See English Rye Grass.....	7	3 bushels.		9	15 lbs.
	7	$2\frac{1}{2}$ to 3 bushels.		9	10 lbs.
ABOUT FORWARDING AND REMITTING. —Every order is executed at once on its receipt, or a reason given why it has not been sent, so that parties ordering may know that if goods are not received in proper time, it is almost certain that the letter has not been received by us. Remittances should be made either in the form of a P. O. Money Order, Bank Draft, Express Money Order, Express Purchasing Order or Registered Letter. Remittances in any other way are entirely at the sender's risk.				24	1 to 2 lbs. in mixture
We guarantee safe arrival, and make no charge for boxes, barrels, packing, or carting. All grass seed bags are furnished free, excepting bags for timothy and clovers, for which we charge, 2 bush. (seamless), 20 cts.; 1 bush. bag, 15 cts.; $\frac{1}{2}$ bush., 12 cts.; 1 pk., 10 cts.					
SPECIAL PACKING for FOREIGN SHIPMENTS , in tin-lined cases or double sacks, only are charged for, at cost.					
SPECIAL QUOTATIONS given to buyers of large quantities, particularly of Grass Mixtures; and parties intending to lay down several acres will find it to their interest to correspond with us.					

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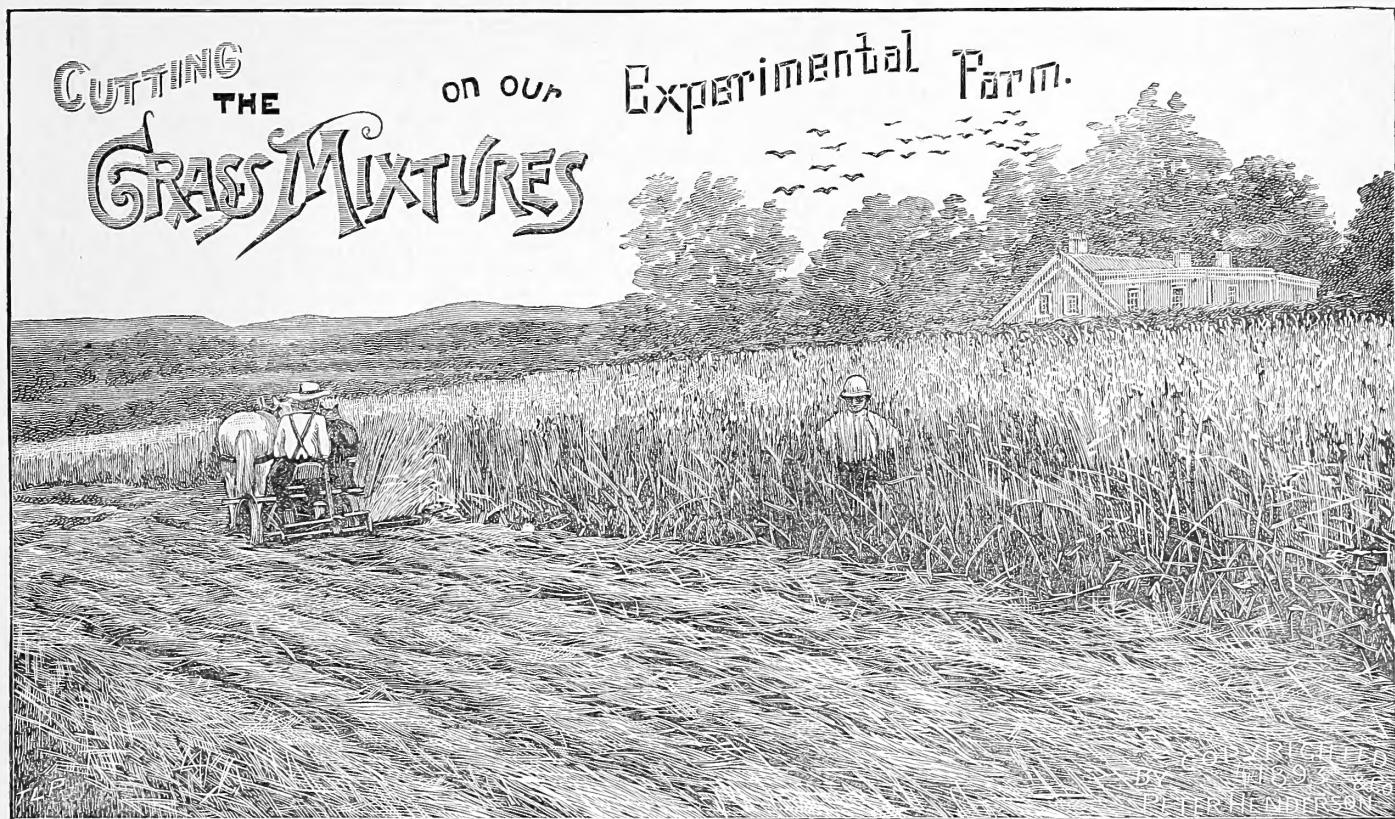
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HENDERSON'S American Farmer's Manual.

(Copyrighted, 1893.)



In previous issues of this Manual we have referred to the experiments which we were conducting at our Experimental Farm, and in last year's issue we gave some interesting details and comparisons of the various Grasses and Mixtures. It was clearly shown that *in every instance the Mixtures* (seventeen in all) *far outyielded Timothy or the ordinary Mixture of Timothy and Clover*, and proved conclusively what we have claimed for years, that *far better results can be got* in any section, whether for hay or pasture, *from the judicious combination of Grasses and Clovers*, which, after all, is

THE NATURAL PLAN,

than can be obtained from the use of any one variety, however good or desirable that one variety might be.

In several instances the yield of the Mixtures was over four times as great as the Timothy and Clover growing alongside, and the pasturing qualities incomparably superior.

The experiments on this extensive scale have now extended over four years and have been visited by hundreds of the leading agriculturists and representatives of the agricultural press, who have written several interesting articles for their respective papers. These we have had printed in pamphlet form and will be found interesting reading to every agriculturist. We will gladly mail a copy to all applicants.

This Catalogue will also be found to be a complete list of the choicest grains, fodder plants, root crops and miscellaneous farm seeds, all of which have been grown from selected stocks and thoroughly cleaned with our steam cleaning machinery.

35 & 37 CORTLANDT STREET,
NEW YORK.

PETER HENDERSON & CO.

FEBRUARY, 1893.

FARM MANAGERS.

We have from time to time applications by competent men for positions as farm and estate managers, men who have been trained to the business, and are well posted on agriculture generally, and the raising and care of all kinds of farm stock. We will be very pleased to enter into correspondence with those who require the services of such. We make no charge to either employer or employee.

HENDERSON'S SPECIAL GRASS MIXTURES

FOR HAY AND PERMANENT PASTURE.

CAN BE SOWN IN EITHER SPRING OR FALL.

Read what the Agricultural Press and our Customers say about Henderson's Grasses, See Circular.

PERMANENT PASTURE.

HENDERSON'S SPECIAL GRASS MIXTURE for Permanent Pasture, consisting of the following varieties: Orchard Grass, Meadow Foxtail, Tall Meadow Oat Grass, Sheep's Fescue, Rhode Island or Creeping Bent, Hard Fescue, Sweet Scented Vernal (True Perennial), Meadow Fescue, English Rye Grass, Kentucky Blue Grass, Italian Rye Grass, Red Top, etc., as recommended in our book, "*How the Farm Pays,*" blended in the proper proportions, we will supply for

\$2.50 per bushel of 14 lbs. (20-bushel lots, \$2.25 per bushel).

On rich alluvial land 3 bushels of this mixture is sufficient to seed an acre, but where the soil is poor a larger quantity will be necessary. Taking one soil with another, and owing to the fact that the seeds we use are of higher quality and better cleaned than ever, a fair average would be **3 bushels to the acre.** The thicker the seeds are sown, the sooner will a fine close turf be obtained. While the leading variety used in these mixtures is Orchard Grass, the addition of the several other Grasses named add to its value; because Orchard Grass sown alone has a tendency to form tussocks or clumps, which, however, can be overcome by thick seeding.

We have heard the claim made that Orchard Grass is tough and pithy. It should be borne in mind that Orchard Grass is about three weeks earlier than Timothy, and that it will certainly be **pithy if allowed to stand** and be harvested at the same time as Timothy. If cut at the proper time, however, there is no grass which makes better hay.

At our Farm, last season, one of these Permanent Mixtures yielded (first cutting, 5,888 lbs.; second cutting, 4,320 lbs. per acre), a total of 10,208 LBS. CURED HAY PER ACRE, while Timothy growing alongside under same conditions yielded only one cutting of 2,400 lbs. per acre.

PETER HENDERSON & Co.

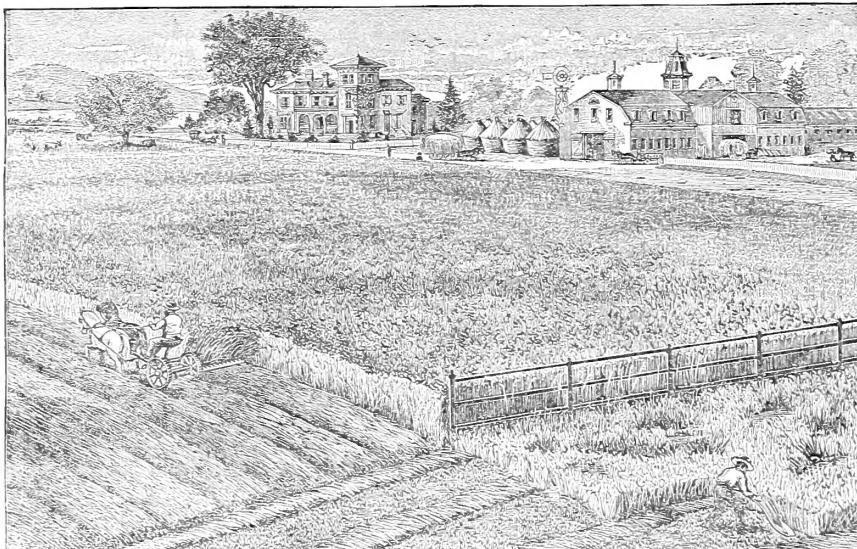
Gentlemen:—Please send me as soon as possible 10 bushels of Red Top Grass Seed, 5 bushels of Orchard Grass Seed, and 5 bushels of Winter Rye. I intend to sow this seed upon my place in the country, and am very anxious to have all of it clean and pure, and for this reason I send to you, believing that in this way I am most likely to receive just what I want. The land is not the best, and the proprietor knows but little about farming, hence the seed must be very good.

Yours truly,

GROVER CLEVELAND.
Executive Mansion, Washington, D. C., March 27th, 1888.

Your Permanent Pasture Mixture I like in preference to all others. It makes the prettiest meadow of them all and turns off lots of excellent hay.

A. E. BROWNING,
Austin, Colo., Dec. 13th, 1891.



HENDERSON'S SPECIAL
GRASS MIXTURE

"SEE THE CONTRAST"

TIMOTHY AND CLOVER.

In 1889 I sowed some of your Special Grass Mixture. The land had been rented to different parties for a number of years and was considered too poor to seed down and insure a catch. I sowed on the 15th of April with fertilizer. The soil is a sandy loam and inclined to leach. I did not cut it the first season, which was a mistake, for the late growth of the Orchard Grass was so strong that it weakened the other grasses. Last year and this year I got fair crops, and nothing has been put on the land since time of sowing. I do not call this a fair test of its merits, but a severe one. One grand feature is that it holds the ground; Ragweeds, Dewberry and Fivefinger vines have not put in an appearance. If Timothy and Clover had been used the weeds would have taken possession.

JAMES B. PALMER.
Branford, Conn., Oct. 29th, 1891.

Henderson's Special Grass Mixture for Hay and Permanent Pasture for Light soils.....

\$2.50

per bushel

of 14 lbs.

" " " " " " Medium soils.....

Medium soils.....

" " " " " " Heavy soils.....

Heavy soils.....

Orchards and Shady Places.....

" " " " " " Hay only. Specially recommended where a hay crop only is desired....

" " " " " " Pasture only. A mixture which will stand close cropping without injury.

20-bushel lots, \$2.25 per bushel. Special quotations for LARGE quantities.

To this mixture, intended for either Mowing Lands or Pasture (but which on account of its greater weight should be sown separately), is to be added 10 lbs. of Mixed Clovers, comprising White, Mammoth Perennial or Cow Grass, Alsike, Trefoil, etc., but this should only be sown in the spring, as it is rather tender in this latitude if sown in the fall.

The quantity needed (10 lbs.) of **MIXED CLOVERS** to sow an acre we will sell for \$2.00.

At first sight \$7.50 to \$10.00 per acre appears to be a high price for the seeding of a pasture, but bear in mind that it is a permanent pasture that we have in view, and nowhere can a permanent pasture be laid down properly for a less original outlay than that we name.

FULL DIRECTIONS FOR SOWING ENCLOSED IN EVERY BAG.

HENDERSON'S SPECIAL GRASS MIXTURES

FOR HAY AND TEMPORARY PASTURE.

CAN BE SOWN IN EITHER SPRING OR FALL.

Read what the Agricultural Press and our Customers say about Henderson's Grasses. See Circular.

TEMPORARY PASTURE.

To those who prefer **TEMPORARY** mowing or grass lands to permanent pasture, we will prepare mixtures of clovers and grasses for what is known as "Alternate Husbandry or Rotation Cropping." These mixtures are adapted to the rotation of crop for which they are prepared and in such proportions as **will produce the largest quantity of nutritious food** for the duration of time specified.

The grasses best adapted for this class of pasture are the following: Orchard Grass, English Rye Grass, Italian Rye Grass, Tall Oat Grass and Meadow Fescue, Red Clover, White Clover, Alsike, Trefoil and Timothy, blended in their proper proportions for the time required. We recommend the following quantities per acre. The grasses may be sown in spring or fall, but the clovers should be sown in spring, for in this latitude they are apt to be winter-killed, being rather tender in the young state.

For One Year: 1 bush. Mixed Grasses, \$2.00. 10 lbs. Mixed Clovers, \$1.75. Total cost per acre, \$3.75.

For Two Years: 2 bush. Mixed Grasses, \$4.00. 10 lbs. Mixed Clovers, \$1.75. Total cost per acre, \$5.75.

For 3 to 4 Years: 3 bush. Mixed Grasses, \$6.75. 10 lbs. Mixed Clovers, \$1.75. Total cost per acre, \$8.50.

(SPECIAL QUOTATIONS
FOR
LARGE ACREAGES.)

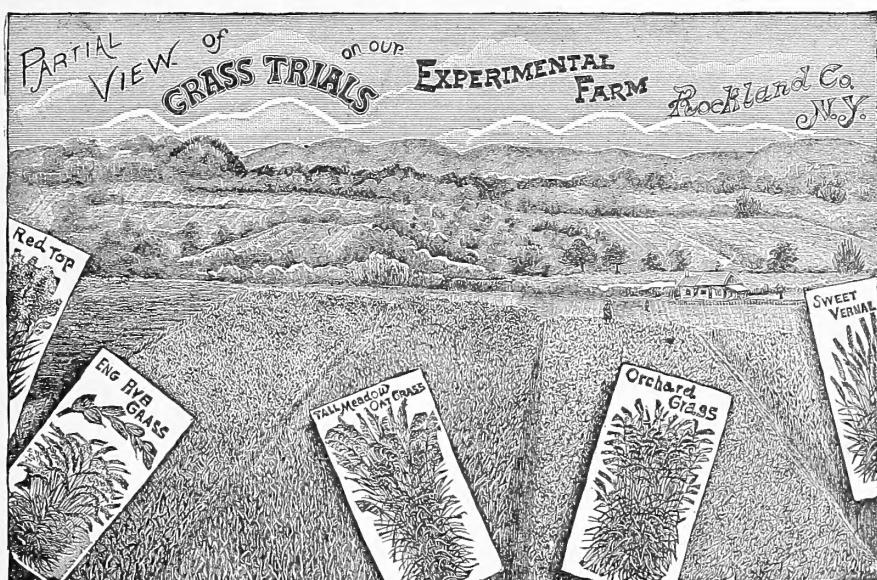
At our Farm, last season, one of these Temporary Mixtures yielded (first cutting 4,800 lbs., second cutting 4,320 lbs. per acre) a total of 9,120 LBS. CURED HAY PER ACRE, while Timothy growing alongside under same conditions yielded only one cutting of 2,400 lbs. per acre.

The grass seed sent by you gave complete satisfaction. It was sown in early spring of 1890 with a light sowing of oats. After the oats were cut had a very good crop of hay. This year, 1891, have had two good crops; the first was too much for my Buckeye machine and the scythe had to be used, the yield was so heavy.

Your mixed grass seed is expensive, but it pays in the end.—HENRY TAYLOR, Baltimore, Md., Nov. 3, 1891.

The grass seed sown last fall has now an excellent set both on the wheat stubble and where planted alone. It is now furnishing pasture for our horses, both young and old. We are very well pleased with it.—G. C. SCOTT, Lima, Ohio, Oct. 26, 1891.

The grass seed proved entirely satisfactory. The hay good, both in quality and quantity. I find the cattle prefer it to my other pastures.—B. P. SNYDER, Nat. Safe Deposit Co., Washington, D. C., Oct. 24, 1891.



You never did a better thing than to get out that book, "How the Farm Pays." It is chock-full of sound sense, and is as pleasant reading to me as if it were a novel. There are no weeds in it; it is well plowed, harrowed and rolled. If a man who reads and heeds that book does not make a good farmer, it must be because his head-soil is so poor as not to be worth cultivating.—HENRY WARD BEECHER, Brooklyn, N. Y.

It affords me pleasure to state that the Special Grass Mixture for permanent pasture which I got from you in spring of 1890 gives me satisfaction both in respect to the hay cut from it and the aftergrowth. The ground is fairly good, red clay, and is well and evenly covered with grass.—JOHN J. LLOYD, Abingdon, Va., Oct. 29th, 1891.

HENDERSON'S RENOVATING MIXTURE FOR IMPROVING OLD PASTURES.

\$2.50 per bush. of 14 lbs. 20-bush. lots, \$2.25 per bush. Mixed Clovers, 20 cts. per lb.

Grass lands, in consequence of being constantly mown or pastured without being fertilized or manured, frequently become impoverished and deficient in the more valuable and nutritious grasses, and in time become unprofitable. It is needless waste and unnecessary to plow up such land unless it be full of weeds. The turf should be well harrowed with a sharp tooth harrow and, if possible, top-dressed with soil and well-rotted stable manure, which should be well harrowed in, and then sown with **Henderson's Renovating Mixture** at the rate of one bushel per acre, and five pounds of mixed clovers. This mixture is composed of those sorts that are best suited for sowing on old pastures or meadows, and it **will speedily improve the quality and increase the produce**. March and April are the best months for sowing, choosing an interval between rains if possible, though, if inconvenient to sow then, very satisfactory results can be obtained by fall sowing. After sowing, the ground should be lightly harrowed and afterward well rolled.

In the preparation of these mixtures for Permanent and Temporary Pasture, the greatest care is exercised in selecting such varieties as are suited to the soil to be laid down and are likely to realize the object in view. To facilitate this, a description of the soil and climate, the range of temperature, and the purpose for which sown, and if with or without a crop, should accompany each order.

FULL DIRECTIONS FOR SOWING ENCLOSED IN EVERY BAG.

NATURAL GRASSES.

Descriptions of varieties adapted to all soils, climates and conditions in the United States.

"GRASS IS KING." It embraces one-sixth part of the whole vegetable kingdom, and is the true basis of Agriculture in the highest condition.
"No grass, no cattle; no cattle, no manure; no manure, no crops!"

CREEPING BENT OR FIORIN.

(**Marsh or Broad Leaved Bent.**)

Botanical, *Agrostis alba stolonifera*. German, *Fioringras*. French, *Agrostide blanche stolonifera*.

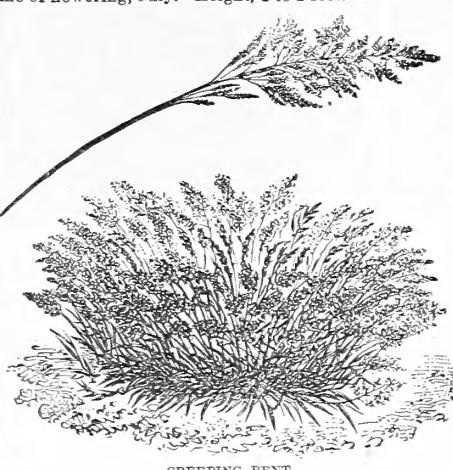
Perennial. Time of flowering, July. Height, 1 to 2 feet.

This grass is well adapted for moist situations, and valuable for affording beerage in early spring and late autumn, before other grasses have commenced or have stopped growing, and in consequence is advantageously included in permanent pasture mixtures. It is also excellent for lawns.

Sow (if alone) 2 bushels per acre.

Weight, about 20 lbs. per bushel.

Price, 20 cts. per lb.; \$3.50 per bushel; \$16.00 per 100 lbs.



CREEPING BENT.

MEADOW FOXTAIL.

Botanical, *Alopecurus pratensis*. German, *Wisen Fuchsschwanz*. French, *Vulpin des prés*.

Perennial. Time of flowering, May. Height, 2 to 3 feet.

This grass closely resembles Timothy, but flowers much earlier, and thrives in all soils excepting dry sands or gravels. Its highest state of perfection is attained in strong, moist, rich soils, and it is particularly valuable as a permanent pasture grass, being of very early and rapid growth. It is highly relished by stock; endures close cropping and forms a luxuriant aftermath, and quickly revives after a long drought. It is very nutritious, but unfortunately loses a large percentage in weight after being cut for hay. Sow (if alone) 3 to 4 bushels per acre; weight, about 7 lbs. per bushel.

Price, 30 cts. per lb.; \$1.80 per bushel; \$24.00 per 100 lbs.



MEADOW FOXTAIL.

TALL MEADOW

OAT GRASS.

Botanical, *Arrhenatherum avenaceum*. German, *Französisches Raygras*. French, *Avoine élevée*.

Perennial. Flowers in May and June. Height, 2 to 4 feet.

(This is the *Avena Elatior* of Linnaeus.) Valuable for permanent pastures on account of its luxuriant early and late growth. It is also highly recommended for soilings, as it furnishes an abundant and early supply of fodder; after being mown it produces a very thick aftermath. It grows spontaneously on deep, sandy soils when once naturalized, and succeeds on tenacious clover soils. Sow (if alone) 4 to 5 bushels per acre; weight, about 10 lbs. per bushel. Price, 25 cts. per lb.; \$2.25 per bu.; \$20.00 per 100 lbs.



TALL MEADOW OAT GRASS.

RHODE ISLAND BENT.

(**Brown Bent or Dog's Bent.**)

Botanical, *Agrostis canina*. French, *Agrostide des chiens*.

Perennial. Time of flowering, June and July. Height, 1 to 2 feet.

Its hardy creeping habit renders it desirable for close sward, and it is found to be a very desirable sort in some parts of the country for lawns. Sow (if alone) about 3 bushels per acre; weight, 14 lbs. per bushel. Price, 25c. lb.; \$2.75 bushel; \$18.00 per 100 lbs.

AWNLESS BROME GRASS.

Botanical, *Bromus inermis*. German, *Trespe de Hongrie*. French, *Brôme de Hongrie*.

Perennial. Time of flowering, June to August. Height, 2 to 5 feet.

For price, full description and illustration of this valuable new grass, see page 11.

ROUGH STALKED MEADOW GRASS.

Botanical, *Poa trivialis*. German, *Gemeines Rispengras*. French, *Paturin commun*.

Perennial. Time of flowering, July. Height, 2 to 3 feet.

The Lombardy "Queen of Meadow" Grass. An excellent grass for good, deep, rich, moist meadows and stiff, heavy clays. It gives a constant supply of highly nutritive herbage, for which horses, sheep and cattle show a marked partiality. Sow (if alone) $1\frac{1}{2}$ bushels to the acre; weight, about 14 lbs. per bushel. Price, 50 cts. per lb.; \$6.25 per bushel; \$42.00 per 100 lbs.

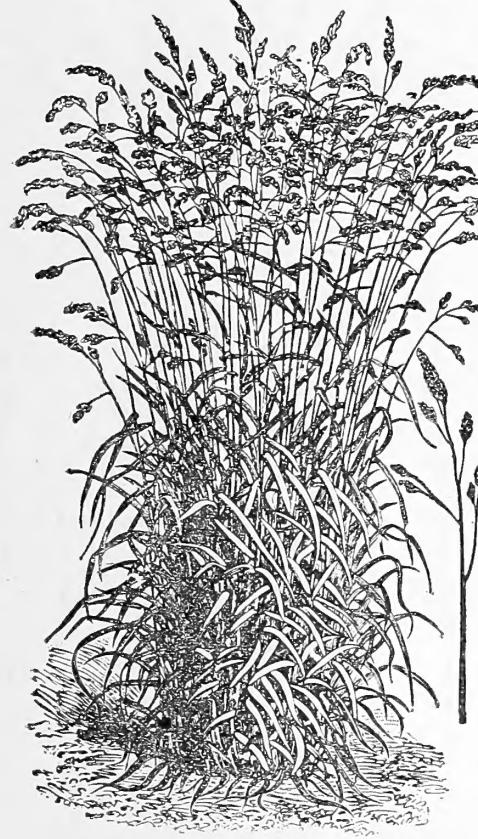
ORCHARD GRASS. (Rough Cocksfoot.)

Botanical, *Dactylis glomerata*. German, *Gemeines Knaulgras*. French, *Dactyle pelotonné*.

Perennial. Time of flowering, June. Height, 3 feet.

This is one of the most valuable and widely known of all the grasses, being of exceptional value in permanent pasture mixtures on account of its earliness and its rapidity of growth.

It is ready for grazing several days before any other grass, except Meadow Foxtail. After being mown it produces a luxuriant aftermath. It is quick to recover from close cropping, "five or six days being sufficient to give a good bite." It is relished heartily by all kinds of stock, sheep even passing all other grasses to feed upon it. It succeeds on almost any soil, especially in moist, shady places, and in porous subsoils its roots extend to a great depth. It exhausts the soil less than many other grasses, and stands drought well, keeping green and growing when other grasses are dried up. It flowers about the time of Red Clover and makes a splendid mixture with it to cut in blossom for hay, although it should be cut early



ORCHARD GRASS.

or grazed close, as it becomes hard and wiry and loses its nutritious qualities, to a certain extent, when ripe. It should not be sown in mixture with Timothy, for, being three weeks earlier, it becomes pithy if allowed to stand until the Timothy is ready to cut. Cut at the proper time, however, there is no better or more succulent hay. It is inclined to grow in tufts, and should therefore have other grasses sown with it and be sown very evenly. This tufting characteristic unfitts it for lawn purposes. Sow (if alone) 3 to 4 bushels per acre; weight, about 14 lbs. per bushel. Price, Choicest, Re-cleaned Seed, 20c. lb.; \$2.50 per bushel; \$14.00 per 100 lbs.

SWEET-SCENTED VERNAL.

(True Perennial.)

Botanical, *Anthoxanthum odoratum*. German, *Gemeines Geruchgras*. French, *Flouve odorante*.

Perennial. Time of flowering, May and June. Height, 1 to 2 feet.

Very valuable on account of its delicious perfume, to which our hay fields and pastures owe their fragrance. The odor is more distinguishable when the grass is drying or dried, and when included in hay its aroma is imparted to the other grasses, making it relished by the stock and enhancing the value of the hay. Sow (if alone) $3\frac{1}{2}$ bushels per acre; weight, about 10 lbs. per bushel. Price, \$1.00 per lb.; \$9.00 per bushel; \$85.00 per 100 lbs.

RED TOP.

(Burden's Grass, Herd's Grass of the South, and in poor soils "Fine Top.")

Botanical, *Agrostis vulgaris*. German, *Amerikan red-top*. French, *Agrostis d'Amérique*.

Perennial. Time of flowering, July. Height, 1 to 2 feet.

Valuable either for mixing in hay or permanent pasture grasses; is common throughout the country; succeeds almost everywhere, but reaches its highest state of perfection in a moist, rich soil, in which it attains a height of 2 to $2\frac{1}{2}$ feet. If for pasture, it should be fed close, as it is not relished after it grows up to seed. It is often sown with Timothy and Red Clover; the latter of course soon disappears, the Timothy follows; then the Red Top takes its place. Sow (if alone) 3 bushels; weight, 14 lbs. per

bush. Price, 12 cts. per lb.; \$1.25 per bushel; \$8.00 per 100 lbs. Fancy.—Weight, 32 lbs. per bu. Price, 25 cts. per lb.; \$6.00 per bushel; \$18.00 per 100 lbs.

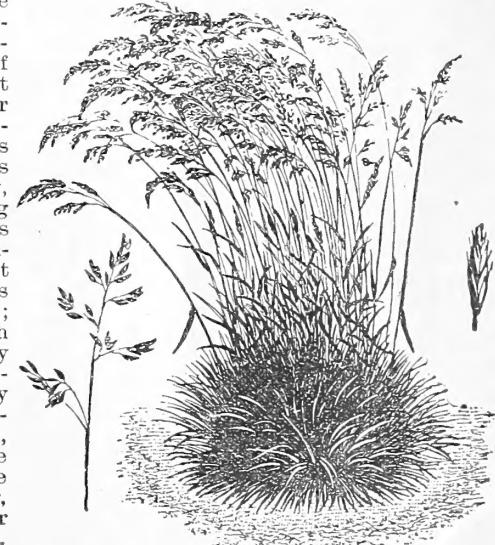
HARD FESCUE.

Botanical, *Festuca duriuscula*. German, *Harter Schwingel*. French, *Fétueque durette*.

* Perennial. Time of flowering, June. Height, 18 to 24 inches.

A dwarf growing, very hardy grass of great value, and the most robust of the dwarfgrasses. Succeeds in dry situations, and is one of the most important of the Fescues for permanent pastures. In hay its presence indicates a superior quality, and after being mown it produces a very large quantity of food. It comes early, stands long droughts well; stock eat it with avidity, especially sheep. The common name solely applies to the flower heads, which, when ripe, become decidedly hard; the herbage, however, is decidedly tender and succulent. From the fineness of its foliage and

its resistance to drought in summer and cold in winter, it is well adapted for lawn grass mixtures. It is somewhat inclined to stool, but when sown with other grasses, if sown evenly, it will not show this characteristic. Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight, about 12 lbs. per bushel. Price, 25c. per lb.; \$2.50 per bushel; \$18.00 per 100 lbs.



HARD FESCUE.

We are prepared to make up Special Mixtures of Grass Seeds for particular purposes—situations or conditions—and any correspondence in regard to such will receive our prompt attention.—P. H. & Co.

HENDERSON'S AMERICAN FARMER'S MANUAL.

TALL MEADOW FESCUE.

Botanical, *Festuca elatior*. German, *Hoher Wiesen-Schwingel*. French, *Fétuque élevée*.

Perennial. Time of flowering, June and July. Height, 3 to 4 feet.

A coarse growing grass, nevertheless it is very nutritive and productive, and is naturally adapted to moist, stiff or clayey soils and shady woods, and is considered by some authorities to be one of the best grasses in cultivation. It is greedily eaten by stock when green, and should be included in all permanent pasture mixtures for moist or strong lands. It also makes a very good quality of hay, but is too robust for lawn purposes. Sow (if alone) 2½ bushels per acre; weight, about 14 lbs. Price, 35 cts. per lb.; \$4.50 per bushel; \$30.00 per 100 lbs.



TALL MEADOW FESCUE.

VARIOUS-LEAVED FESCUE.

Botanical, *Festuca heterophylla*. German, *Wechselblättriger Schwingel*. French, *Fétuque feuilles variées*.

Perennial. Time of flowering, June and July. Height, 2½ to 3 feet.

A native of France and a valuable grass for permanent pastures, especially on uplands, and is a very popular continental grass, well adapted where a heavy swath is wanted. It yields a large bulk of herbage, but produces little feed after mowing. Its beautiful, dark green foliage renders it suitable for park mixtures. Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price, 30 cts. per lb., \$3.50 per bushel; \$24.00 per 100 lbs.



VARIOUS LEAVED FESCUE.

SHEEP'S FESCUE.

Botanical, *Festuca ovina*. German, *Schafschwingel*. French, *Fétuque des brebis*.

Perennial. Time of flowering, June and July. Height varies from 6 to 20 inches.



SHEEP'S FESCUE.

per acre; weight about 12 lbs. per bushel. Price, 25 cts. per lb.; \$2.50 per bushel; \$18.00 per 100 lbs.

FINE LEAVED SHEEP'S FESCUE.

Botanical, *Festuca ovina tenuifolia*. German, *Feinblättriger Schwingel*. French, *Fétuque à feuille menue*.

Perennial. Time of flowering, June. Height varies from 8 to 24 inches.

This is similar to the Sheep's Fescue mentioned above, except that the leaves are much finer. Cattle are very fond of it, and it grows naturally in many parts of the world. It is found in the Arctic regions, in the wilds of New Zealand, and in Europe. In the northern districts of Great Britain it sometimes forms the whole food of the Highland cattle. It is very suitable for permanent pasture, especially on uplands and dry soils. Its rich, dark green gives a fine appearance to hay, and renders it also valuable for lawn mixtures for dry situations.

Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price, 35 cts. per lb.; \$4.25 per bushel; \$28.00 per 100 lbs.

RED or CREEPING FESCUE.

Botanical, *Festuca rubra*. German, *Roter Schwingel*. French, *Fétuque rouge*

Perennial. Time of flowering, June and July. Height, 2 to 2½ feet.

This grass is of a remarkable creeping habit and endures severe droughts. Its roots penetrate so deeply into the soil that it remains fresh and green when other varieties are apparently dried up. It is particularly adapted for dry pastures by the seaside and on loose, light soils, the slopes of railroad cuts, etc., if dry. It yields an average bulk of herbage of fair quality, although most nutritious at time of flowering. Sow (if alone) 2½ bushels per acre; weight, about 11 lbs. per bushel. Price, 25 cts. per lb.; \$2.75 per bushel; \$18.00 per 100 lbs.

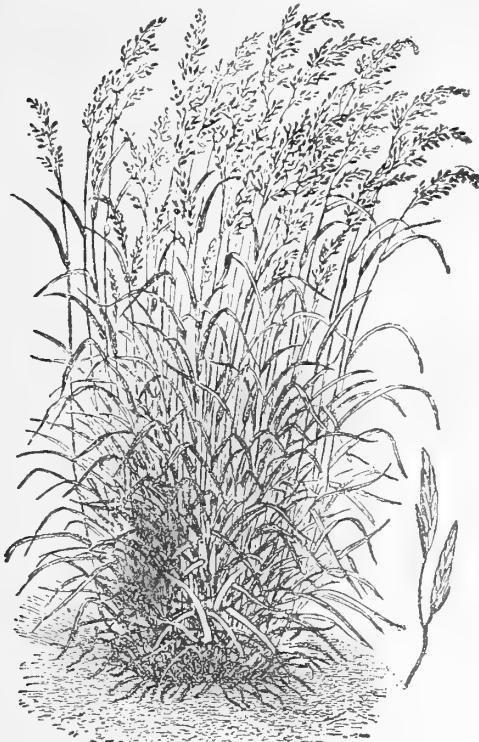


RED FESCUE.

MEADOW FESCUE.**(English Blue Grass or Sweet Grass.)**

Botanical, *Festuca pratensis*. German, *Wiesenschwingel*.
 French, *Fétuque des prés*.

Perennial. Time of flowering, June and July. Height, 18 to 24 inches.



MEADOW FESCUE.

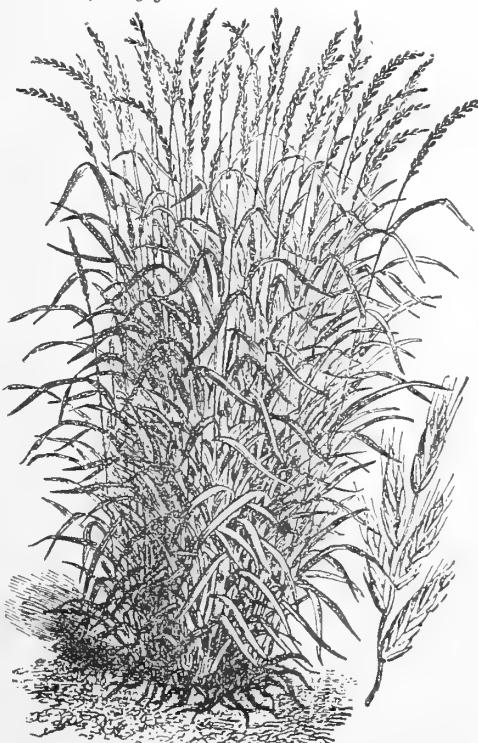
One of the very best of our natural grasses; very valuable for permanent pastures. It is highly nutritious and greedily eaten by all kinds of stock and is very fattening; makes excellent hay and succeeds well in almost all soils, although it does best in moist land. It is robust in habit and never grows in tufts, although it should be sown with other grasses. It is one of the earliest grasses in the spring and one of the latest in autumn, being particularly valuable for fall and winter pastures. In the climate of Virginia it often remains green under the snow through the winter, and in consequence is frequently called "Evergreen Grass." Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight, about 22 lbs. per bushel. Price, 25c. per lb.; \$4.50 per bu.; \$18.00 per 100 lbs.

ITALIAN RYE-GRASS.

Botanical, *Lolium italicum*. German, *Italienisches Raygras*.
 French, *Ray-gras d'Italie*.

Biennial. Time of flowering, June or July. Height, 18 to 30 ins.

A variety unequalled for producing an abundance of nutritious feed in the early spring, as well as throughout the season, and it gives quick and successive growths until late in the fall, even if cut several times, providing the land is in good condition and not too dry. It is of succulent character and quickly responds to rich food and moisture. It thrives on almost any good soil, but reaches its most perfect state in moist, fertile land. As it is not perennial, it is not adapted for permanent pastures, but for one or two year's lay it is unsurpassed. Sow (if alone) 3 bushels per acre; weight about 18 lbs. per bushel. Price, 15c. per lb.; \$2.25 per bush.; \$11.00 per 100 lbs.



ITALIAN RYE-GRASS.

ENGLISH or PERENNIAL RYE-GRASS.

Botanical, *Lolium perenne*. German, *Englisches Raygras*.
 French, *Ray-grass Anglais*.

Perennial. Time of flowering, June. Height, 15 to 24 inches.

This grass is considered invaluable for permanent pastures. It produces an abundance of remarkably fine foliage, tillers out close to the ground and soon forms a compact sward. After being cut it grows up in a very short time and remains bright and green



ENGLISH RYE-GRASS.

throughout the season; it consequently is well adapted for lawn mixtures. It is also a good variety for hay if cut when in blossom, as it is then most nutritious; if cut much later it becomes woody. It flourishes best in situations not too dry or subject to ~~dry~~^{water}. Sow (if alone) $2\frac{1}{2}$ to 3 bushels per acre; weight per bushel, 24 lbs. Price (*extra fine sample*), 12 cts. per lb.; \$2.65 per bushel; \$10.00 per 100 lbs.

WOOD MEADOW GRASS.

Botanical, *Poa nemoralis*. German, *Hainrispengras*.
 French, *Paturin des bois*.

Perennial. Time of flowering, June. Height, $1\frac{1}{2}$ to 2 feet.

This grass is now classed among our good "Shaded Pasture" grasses, and furnishes a fine succulent and nutritive herbage which is very much relished by cattle. It is splendidly adapted for moist, shady places, and should be included in all mixtures for permanent pastures and lawns for moist soils. It is particularly valuable for lawns overshadowed by trees. It produces a much thicker growth than either *Poa pratensis* or *trivialis*. Sow (if alone) 2 bushels per acre; weight per bushel, about 14 lbs. Price, 50 cts. per lb.; \$6.25 per bushel; \$42.00 per 100 lbs.



WOOD MEADOW GRASS.

TIMOTHY OR HERD'S GRASS Of the North.

Botanical, *Phleum Pratense*. German, *Thimotée-Gras*.

French, *Fléole des prés*.

Perennial. Time of flowering, June and July. Height, 2 to 3 feet.

This luxuriates in moist, loamy soils, and sometimes, in favorable situations, attains a height of 4 feet, and even on light soils it yields fair crops. It is exceedingly nutritious, particularly when ripe, but as it is then very hard, it is better to cut it soon after flowering. It makes magnificent hay. On dry soils Timothy forms a bulbous swelling at the base of the stems from which the next year's growth starts. It is, therefore, highly injurious under such circumstances to pasture stock on the fall growth, as they trample and cut the leaves off that should protect it during the winter. Even in its most flourishing condition it is more or less injured by pasturing it. Sow (if alone) $\frac{1}{2}$ to 1 bushel per acre; weight per bushel, 45 lbs.

Price, Henderson's Standard Sample, 10 cts. per lb.; \$2.75 per bushel; \$5.60 per 100 lbs. (subject to change without notice).



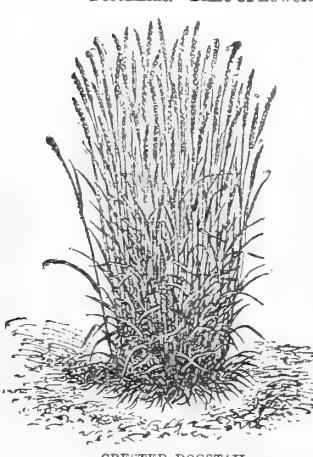
TIMOTHY.

CRESTED DOGSTAIL. (Gold Grass.)

Botanical, *Cynosurus cristatus*. German, *Kammgras*.

French, *Crételle des prés*.

Perennial. Time of flowering, July. Height, 1 to $1\frac{1}{2}$ feet.



CRESTED DOGSTAIL.

A fine, short grass that should enter into all permanent pasture mixtures, especially for dry, hard soils and hills pastured with sheep, as it is very hardy and but little affected by extremes of weather. Sheep fed in pastures where this abounds are less subject to foot rot. It is tender and nutritious and relished by all stock until it commences to ripen; it then becomes wiry. On account of its close growing habit, the dense turf it produces and its evergreen foliage, it is particularly desirable for lawn mixtures. Sow (if alone) $1\frac{1}{2}$ bushels per acre; weight about 21 lbs. per bushel. Price, 45 cts. per lb.; \$9.00 per bushel; \$40.00 per 100 lbs.

FOWL MEADOW GRASS.

Botanical, *Poa serotina*.

German, *Rispengras*.

French, *Paturin d'oiseau*.

Perennial. Time of flowering, July and August. Height, 2 to 3 feet.

A valuable grass on low, wet lands, moist meadows, low backs of streams, etc. Sow (if alone) 3 bushels per acre; weight per bushel, 12 lbs. Price, 30 cts. per lb.; \$3.00 per bushel; \$22.00 per 100 lbs. (Uncleaned seed.)

KENTUCKY BLUE GRASS.

Also called June Grass, Smooth Stalked Meadow Grass, Green Meadow Grass, and Spear Grass.

Botanical, *Poa pratensis*. German, *Wiesen Rispengras*. French, *Paturin des prés*.

Perennial. Time of flowering, June. Height, 10 to 15 inches.

This valuable grass is suited to a variety of soils, from an average dry one to moist meadows. It is exceedingly popular in most parts of the country as a pasture grass. It is very productive, unusually early, and presents a beautiful green appearance in early spring, while other grasses are yet dormant. It furnishes delicious food for all kinds of stock all through the season—unless there should be a protracted drought, which would cause it to slowly dry up—until the fall rains, when it springs forth and grows luxuriantly, and furnishes pasture until frozen up in winter.

In Kentucky and similar latitudes, when allowed its full fall growth, it makes fine winter pasture, and sheep, mules and horses will paw off the snow and get plenty to live on without other food. It makes a splendid lawn grass, forming a thick turf, and being of very even growth, producing only one flowering stem a year, while many other grasses continue to shoot up flower stalks throughout the season. Kentucky Blue Grass also makes hay of excellent quality, but the yield for this purpose is not equal to some other grasses. Sow (if alone) 3 bushels per acre; weight per bushel, 14 lbs. Price, *Extra Clean Seed*, 15 cts. per lb.; \$1.75 per bushel; \$11.00 per 100 lbs. *Fancy or Double Extra Clean Seed*, 20 cts. per lb.; \$2.10 per bushel; \$14.00 per 100 lbs.



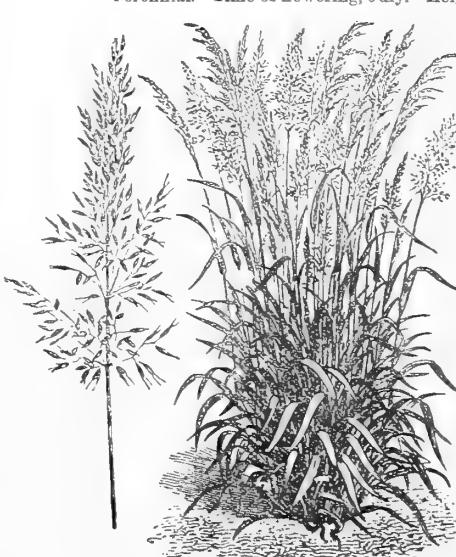
KENTUCKY BLUE GRASS.

YELLOW OAT GRASS. (True.)

Botanical, *Arena flavescens*. German, *Goldhafer*.

French, *Avoine jaunâtre*.

Perennial. Time of flowering, July. Height, 18 inches.



Particularly adapted for dry meadows and pastures. Being of somewhat slow growth it should be sown with other grasses, and does well with Crested Dogtail and Sweet Vernal. It should be included in all permanent pasture mixtures for light, dry and calcareous soils. It is highly relished by cattle; comes very early and makes a very sweet hay, after which a large aftermath is produced. Sow (if alone) 3 bushels per acre; weight about 7 lbs. per bushel. Price, \$1.00 per lb.; \$6.50 per bushel; \$85.00 per 100 lbs.

YELLOW OAT GRASS.

Your Special Mixture of Grasses for Permanent Pasture has given entire satisfaction. *No more Timothy for me.*—CHARLES EVERDING, Branford, Conn.



WHITE CLOVER.

WHITE CLOVER.

Dutch or Honeysuckle Clover.
Botanical, *Trifolium repens*. German, *Weissklee*.
French, *Tréfle blanc*.

Perennial. Time of flowering, May to September.
Height, 6 inches (creeping).

A very hardy creeping variety, which accommodates itself to a great variety of soils, but grows most luxuriantly in moist ground or in wet seasons. It is valuable in mixtures for permanent pastures and lawns, and also prevents the soils from being washed by heavy rains. Sow (if alone) 8 lbs. per acre; weight per bush., 60 lbs. (See cut.) Price, 30 cts. per lb., \$16.50 per bushel, \$26.00 per 100 lbs.

Mammoth or Pea Vine Red Clover.

(*Perennial Red Clover, Cow Grass.*)

Botanical, *Trifolium pratense perenne*. German, *Bullenklee*. French, *Tréfle vivace d'Angleterre*.
Perennial. Time of flowering, July. Height, 3 to 5 feet.

Quite distinct from the common Red Clover, and valuable for purposes for which the latter is entirely unsuited. It lasts for years and is adapted for longer lays. It produces a cutting crop two or three weeks later than common Red Clover, of very robust growth, yielding enormous bulk; it is very valuable for reclaiming exhausted lands. Sow (if alone) about 12 lbs. per acre; weight, 60 lbs. per bushel. Price, 30 cts. per lb., \$16.50 per bushel, \$26.00 per 100 lbs.

YELLOW SUCKLING CLOVER.

Botanical, *Trifolium filiforme*. German, *Gelber fadenformiger Klee*. French, *Tréfle filiforme*.
Perennial. Time of flowering, May to July. Height, 6 in. (creeping).

A small trailing Yellow Clover, succeeding well on dry, gravelly or sandy soils. Stands the hot sun, and can be advantageously sown with mixtures for either lawns or permanent pastures for dry situations. Sow (if alone) 10 lbs. per acre. Price, 35 cts. per lb., \$19.50 per bushel, \$30.00 per 100 lbs.

WHITE BOKHARA. (Sweet Clover.)

Botanical, *Melilotus alba*. German, *Wunderklee*. French, *Tréfle de Bokhara*.
Biennial. Time of flowering, June to September. Height, 2 to 4 feet.

This is a tall shrubby plant, bearing quantities of small white flowers of delicious fragrance, and is exceedingly valuable as a pasturage throughout the season for bees, and is also of great value to plow under as a fertilizer. It flourishes on poor soils and in exposed situations. Should be sown in the spring, and if expedient in drills 12 to 18 inches apart, requiring 10 lbs. per acre. Price, 40 cts. per lb., \$22.50 per bush., \$35.00 per 100 lbs.

SCARLET CLOVER. (Crimson or Carnation Clover.)

Botanical, *Trifolium incarnatum*. German, *Inkarnat Klee*. French, *Tréfle incarnat*.

Annual. Time of flowering, June. Height, 2 ft.

Where a single crop is required, either alone or with Italian Rye Grass, this is one of the best clovers that can be grown. It makes good hay, and is excellent for feeding green, the yield being immense, and after cutting it at once commences to grow again, and continues until freezing weather. It can be sown in the fall for early spring cutting, but is generally sown in the spring for cutting in July. Is suitable to all soils, but to light and chalky soils more especially, on which it outyields by far the ordinary Red Clover, and is earlier than that variety by two or three weeks. Sow (if alone) 14 lbs. per acre. Price, 18 cts. per lb., \$9.60 per bushel, \$15.00 per 100 lbs.

CLOVERS.

Clovers are one of the most important factors to success in Agriculture. They exhaust the soil less than any other class of plants giving equal bulk; they get much sustenance from the atmosphere, and actually add to the fertility of the land.

RED CLOVER. (Common or Medium Clover, June Clover.)

Botanical, *Trifolium pratense*. German, *Kopfklee, roth blühender*. French, *Tréfle rouge*.

This is by far the most important of the Clover family for practical agriculture. It grows luxuriantly in stiff loams, and is fond of lime, though it adapts itself to a variety of soils. In the Northern States it is generally sown in the spring, and in a short time yields abundantly. Sow (if alone) 12 to 14 lbs. per acre. If sown in spring after Timothy, 6 to 8 lbs. per acre. Price, Henderson's Standard Sample (extra re-cleaned), 18 cts. per lb., \$10.00 per bushel, \$16.00 per 100 lbs.

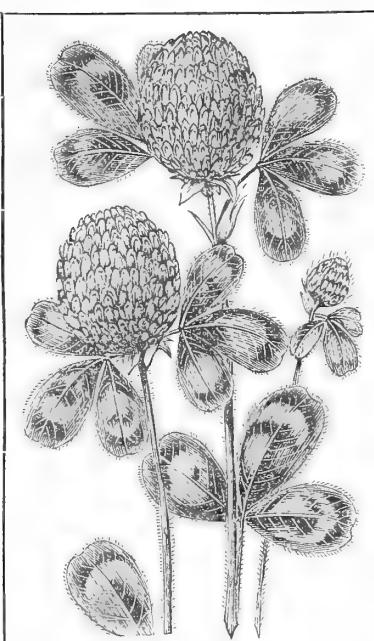
ALSIKE OR HYBRID CLOVER.

(*SWEDISH CLOVER.*)

Botanical, *Trifolium hybridum*. German, *Bastard Klee*. French, *Tréfle hybride*.

Perennial. Time of flowering, July and August.
Height, 9 to 18 inches.

This is one of the hardest of all the Clovers. It succeeds on any soil, and resists extremes of drought and wet. It yields enormously, and can be cut several times in a season; is very nutritious, and is good for either green food, pasturing or cured for hay. It is valuable for sowing with other grasses and clovers, as it forms a thick bottom, and increases the yield of hay. Alsike Clover frequently produces heavy crops on soils that have become "clover sick," and where no other clovers will succeed. Sow (if alone) 8 lbs. per acre; weight, 60 lbs. per bushel. 30c. lb., \$16.50 bushel, \$25.00 per 100 lbs.



COW GRASS, MAMMOTH OR PEA VINE CLOVER.

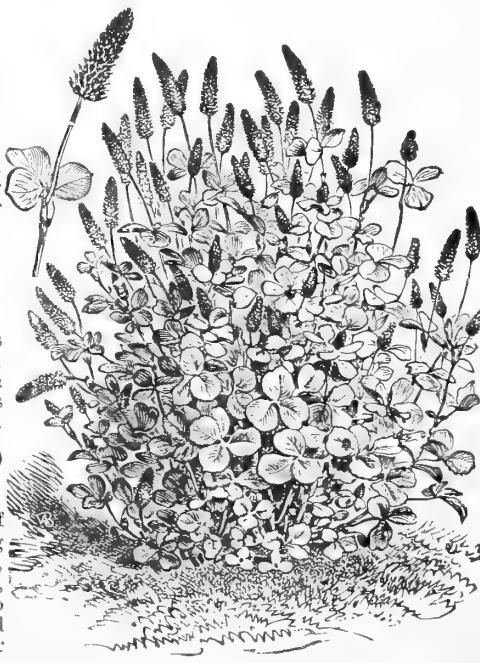
YELLOW TREFOIL CLOVER.

(*Hop Clover, Nonsuch or Black Medick.*)

Botanical, *Medicago lupulina*. German, *Gelb-Hopfenklee*. French, *Minette jaune*.

Biennial. Time of flowering, May to August.
Height, 8 to 15 inches.

An excellent variety for sheep pastures, either alone or with other grasses. It thrives on dry, inferior soils; starts very early in the spring; valuable for one or two years' lay. Very productive and grows rapidly. Sow (if alone) 15 lbs. per acre. 20c. per lb., \$10.75 per bushel, \$16.00 per 100 lbs.



CRIMSON CLOVER.

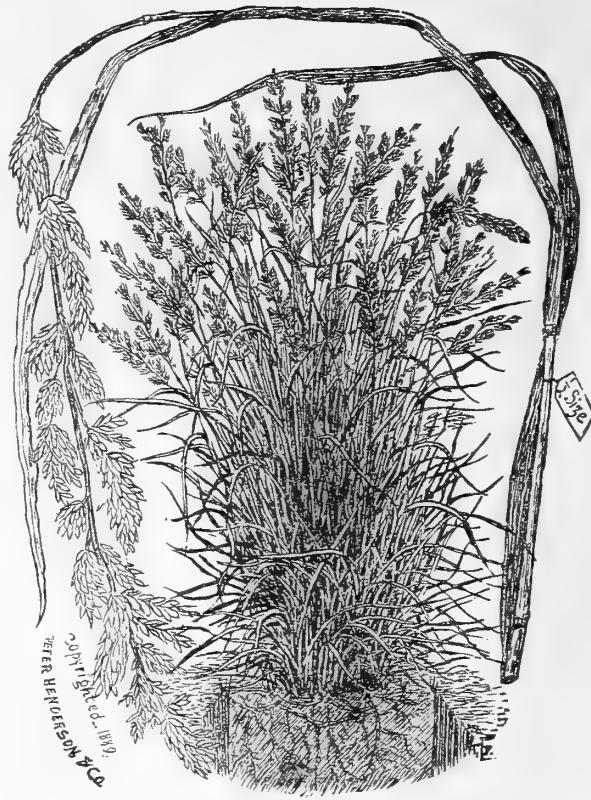
GRASSES for the SOUTH & WEST

— “GRASS IS KING.” —

TEXAS BLUE GRASS. (*Poa Arachnifera*.)

This is an invaluable hardy winter Grass for the South, and the longest, driest and hottest summer fails to injure it. It makes as good sod as the Kentucky Blue Grass (*Poa Pratensis*), and if sown together (not too deep) the seeds of the two varieties generally come up together after the same shower, for it takes a wet, damp, drizzly spell to start it. It can be cultivated from both seed and sets, and either may be planted in the fall or spring, though the fall is preferable. The seeds are of a woolly, webby nature, and hitherto this condition has greatly retarded its cultivation from seed, but one of our correspondents has overcome this, and has favored us with details of his method of parting and sowing the seed. This has been put together by us in the shape of a pamphlet, a copy of which we will send free with all orders. The sets should be planted at any time between the fall and the end of February, after plowing, in rows $2\frac{1}{2}$ feet apart, and 10 to 12 inches between the plants (about 20,000 sets to the acre). They will soon seed and spread, and form a compact turf of the highest value. Parties ordering should be careful to state Texas Blue Grass, so as not to confound it with Kentucky Blue Grass.

PRICE.—20 cts. per packet; 40 cts. per oz.; \$1.00 per $\frac{1}{4}$ lb.; \$3.50 per lb.; \$300.00 per 100 lbs.



LOUISIANA GRASS. (*Paspalum Platycaulis*.)

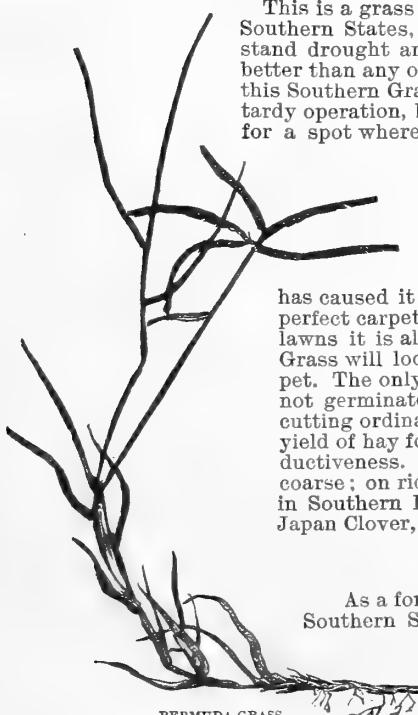
This is a valuable Grass, as it furnishes an abundance of green feed for stock all the year, except a short time during the coldest period of winter. It increases rapidly from seed, and also reproduces itself from suckers. It grows well on all dry lands, and stands drought better than Bermuda or Johnson Grass. It grows from 2 to 5 feet high, and stands the hoof better than the Johnson Grass. It is readily propagated from seeds or sets. Sets, 75 cts. per 100; \$6.00 per 1,000. Seed, \$2.00 per lb.; 10 lb. lots, \$1.75 per lb.

BERMUDA GRASS. (*Cynodon Dactylon*.)

This is a grass that is eminently adapted for the Southern States, as it is fitted by nature to withstand drought and the scorching rays of the sun

better than any other variety that we know of. Hitherto, the great difficulty in extending the cultivation of this Southern Grass has been that it has had to be propagated for the most part by sets, which is always a tardy operation, but this is now *a thing of the past*. We have been ransacking the universe for several years for a spot where a plentiful supply of good germinating seed of this grass can be grown, and have at last found one, so that those who have been waiting for good germinating seed of the true variety of Bermuda Grass need wait no longer. Who can estimate the boon this will be to the South? It will be simply invaluable. When once sown and partly established, it will propagate itself. In all tropical countries, this grass is highly esteemed for its drought-resisting qualities, and also for the peculiar habit of its growth; the wiry roots of the grass in running over the surface of the ground form a strong fibrous matting. It has numerous joints, from each of which roots strike down and blades shoot up. This

has caused it to be sown largely for the purpose of binding banks of creeks and dams, etc. It makes a perfect carpet of roots, enabling it to withstand traffic which would completely kill any other grass. For lawns it is also highly prized, as while all other grasses are burned up during the hot season, Bermuda Grass will look comparatively green, and if watered and regularly mown, it will make quite a velvety carpet. The only drawback is that in winter it looks a little brown. It should be sown in the spring, as it will not germinate until warm weather comes. As a grass for hay or pasture, it matures and gives its first cutting ordinarily in June. Persons having the most experience with Bermuda Grass, place the average yield of hay for ten years at four tons per acre per annum. This is a cautious and safe estimate of its productiveness. It grows wherever corn and cotton grow. On poor land Bermuda Grass is stumpy and coarse; on rich land its growth is free, and its blades are long, tender and delicate. Properly cultivated in Southern latitudes, animals prefer this grass and the hay made from it over all other varieties. Like Japan Clover, it does not succeed further north than Virginia. Price of Seed, \$1.50 lb.; 100 lbs., \$1.25 lb.



SORGHUM HALAPENSE. (Johnson Grass.)

As a forage plant, this grass has proved to be of the greatest value in Alabama and other of the large Southern States. It will grow on any land where corn will grow, and in the opinion of so well-known an authority as Wm. Saunders, of the Department of Agriculture at Washington, is looked upon as having the greatest prospective value. In Alabama they make three cuttings of it yearly, and from the returns average five tons of hay per acre. This is grown on good bottom land, and all the cultivation it receives is to plow it down once in three years and then give it a very thorough harrowing, when an increased crop ensues.

The best stage at which to cut for hay is when the grass comes into bloom, when it will be from 24 to 30 inches high. It is then very tender, and far more nutritious than sweet corn. All kinds of stock are fond of it. It is of perennial growth and takes firm hold of the soil, and spreads rapidly. Seeds of this grass should be sown alone, in well-prepared ground, from August to October 15th, sowing broadcast one bushel extra clean seed to the acre. Price, 20 cts. lb.; bushel of 25 lbs., \$3.50; 100 lbs., \$12.00.

WONDERFUL HAYCROPS AND LUXURIANT PASTURE SECURED IN DROUGHT STRICKEN DISTRICTS BY SOWING AWNLESS BROME GRASS. *First introduced by Peter Henderson in 1887.*

AWNLESS • BROME • GRASS.

Botanical, *Bromus inermis*. German, *Trespe de Hongrie*. French, *Brôme de Hongrie*.

Perennial. Time of flowering, June to August. Height, 2 to 4 feet.

When we introduced this grass five years ago, we strongly recommended it for the South and West, believing that it would prove a boon to the dry and hot sections of the United States.

We have distributed large quantities, besides conducting experiments with it ourselves, and the unanimous verdict is, that the drought-resisting qualities of this grass are marvelous, rendering it the most valuable grass for dry and hot regions where other grasses could not exist.

It is a native of the black lands of Russia, but within recent years has been extensively grown in the dry and arid plains of Austria and Hungary. The Department of Agriculture believes that this grass will be the means of reclaiming and turning to profitable account thousands of acres now lying waste in the West and South-west.

It is thoroughly permanent, grows with wonderful rapidity, produces heavy hay crops and luxuriant pasture and will stand the longest drought of all forage plants, and is equally good for cutting green, pasturing or curing into hay. It will grow on gravelly clay, fresh marl and even on yellow sand, although, of course, on this it does not produce so abundantly, but even under these less favorable conditions it gives a very large yield.

All kinds of stock eat it greedily, and the analyses made show that it is exceedingly rich in flesh-forming ingredients, much more so than Timothy.

One advantage of this variety is that it does not need so expensively prepared ground as Alfalfa, and does not require the attention and labor, such as cultivating between the rows.

It has been known to stand where even Alfalfa has succumbed to the drought. It can be sown in the fall or spring, and should be sown by hand when there is a slight breeze, so that the seeds as they fall will be well divided. Sow (if alone) 35 lbs. per acre; if with Alfalfa (and they do well together), 20 to 30 lbs. (See cut.) Price, 40 cts. per lb., \$35.00 per 100 lbs.



AWNLESS BROME GRASS. (*Bromus inermis*.)

PRICE,

40 cts. lb.; \$5.25 bush. of 14 lbs.;
\$35.00 per 100 lbs.

Sow, if alone,
35 lbs. per acre.

If with Alfalfa,
sow 20 to 30 lbs. per acre.

"I wish you could see our five acres of *Bromus inermis* to-day, as green as any blue grass field you ever saw in June. On this field I am now (and have been for a month) pasturing three cows (tethered); they thrive wonderfully and give a third more milk than when on the prairie pasture. Yet we have had no rain for six weeks. *Bromus inermis* will yield from one and a half to three tons per acre (two cuttings), and is equal or superior to Timothy for cattle or horses."

DR. SEWALL,
SUP'T U. S. GRASS EXPERIMENT STATION,
Sept. 18th, 1891. Garden City, Kansas.

"The *Bromus inermis* is the grass for this western country; it is the best out of seven or eight hundred different varieties tried on this Station. It is green from the 15th of March until about the 1st of November. You need not hesitate to recommend it. I do not think you could estimate it too highly."

H. C. BROOKS,
In charge
U. S. GRASS EXPERIMENT STATION,
Jan. 29th, 1892. Garden City, Kansas.

"The Pasture Grass bought from you and planted last March, a year ago, is the finest grass I ever saw. I am quite sure we made more than 3½ tons per acre. It was planted on well-drained bottom land. I got three good cuttings; the first yielded 23 two-horse wagon loads, the second 18 two-horse wagon loads, and the third 20 two-horse wagon loads, from about six acres."

PAT. CALHOUN,
Grassland, Ga.

Clovers for the South.

ALFALFA OR LUCERNE.

(*Medicago sativa.*)

This has been a favorite forage plant in some parts of the Old World for hundreds of years, where soils and climates are adapted to it, and is considered indispensable.

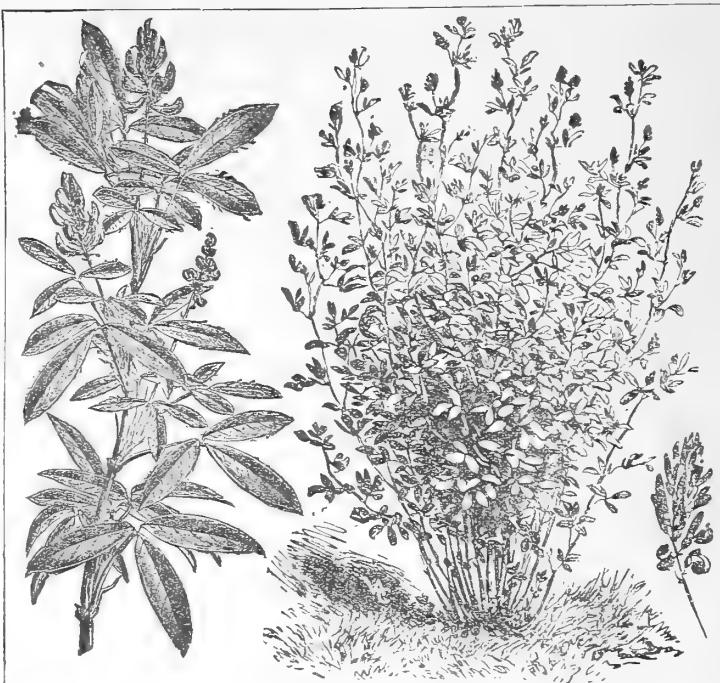
It is remarkable that Alfalfa has not come into more general cultivation in our Southern States, and other sections suitable to it, for it is of inestimable value, particularly in localities subject to protracted droughts. The late senior member of our firm, Mr. Peter Henderson, after a visit through the South, stated: "I was much impressed with the utter dearth of forage plants in some localities, and the consequent starved looking cattle, and to my inquiries as to the cause, the reply was always, 'No good grass or clover can be found to stand the heat and drought of our long summers.' Fortunately, in alluding to the subject to a gentleman in St. Augustine, Fla., I was shown a practical solution of the difficulty by being taken to a patch of Alfalfa only $\frac{1}{16}$ of an acre in extent—which had fed a cow during the summer months, which produced as fine milk and butter as could be got North. The land on which this was grown was identical with thousands of acres in the immediate vicinity which was given over to Scrubby Pine and Blue Palmetto."

The great value of Alfalfa is in its enormous yield of sweet and nutritious forage, which is highly relished by stock either when green or cured into hay. It will grow and yield abundantly in hot, dry sections, and on poor, light and sandy land, where no other grasses can be grown, for it sends its roots down to enormous depths, they having been found in sandy soil 13 feet long; consequently it consumes food, moisture and the leach of fertilizers, which have been for years beyond the reach of ordinary plants.

Alfalfa greatly enriches the soil, even more than ordinary Clovers, as it derives a very large portion of nutritive material from the atmosphere. It aerates the land to a great depth, and a large portion of its great fleshy roots, equaling small carrots in size, annually decay from the outside and keep growing larger from the centre, and are constantly increasing the fertility of the ground.

Alfalfa is not considered perfectly hardy in our more Northern States, yet experiments made by some of our Northern Agricultural Experimental Stations prove it of more value North than previously supposed.

The Great Yield.—Because Alfalfa flourishes on poor and worn-out lands, it should not be thought unadapted to good soils. In the latter, its yield almost exceeds belief. At the New Jersey



ALFALFA OR LUCERNE.

State Farm seed of it was sown April 28th, in drills and the plants cultivated, and it had grown 40 inches tall, and when cut on July 7th, 70 days from sowing, yielded (green) $7\frac{3}{10}$ tons per acre; the second cutting, made on August 18th, yielded (green) $8\frac{1}{10}$ tons per acre; the third cutting was made September 27th, and yielded (green) $4\frac{6}{10}$ tons per acre; a total of 20 tons of green fodder per acre the first year sown, which would equal at least 5 tons of cured hay. If sown on light, dry soils during a dry spell, or if sown broadcast, not much, if any, crop can be expected the first year, as the roots have to get a vigorous hold of the soil; the second year it can (if sown under such conditions) be cut two or three times, but it is not until the third year that it develops into full vigor, and after that it yields magnificent crops for 10 or 15 years.

Alfalfa will not flourish on land where water stands a short distance below the surface, nor in heavy, sticky clays. It attains its highest perfection on mellow, well-drained or rolling land where water readily passes away.

Sow (in drills) 12 lbs. per acre. Price per lb., 20c.; \$10.50 per bushel; \$16.00 per 100 lbs.

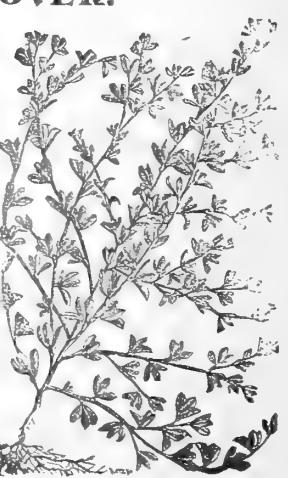
sections, it should be sown with half crop of barley or other grain to shade it from the hot sun for the first summer. It will crop from seven to ten years, according to the nature of the soil. Its duration, however, may be greatly increased by judicious top-dressing. Price, 15 cts. per lb.; \$2.00 per bushel of 20 lbs.; \$8.00 per 100 lbs.

JAPAN CLOVER.

(*Lespedeza striata.*)

A low spreading perennial, allied to the clovers, much like white clover in habit, and lasting for years. It flourishes on the poorest soils, and is also excellent for preventing it from washing by heavy rains; it withstands extreme drought, furnishing good grazing, even in dry, hot weather. For a sheep pasture it is excellent and very nutritious. Valuable in the South for sowing on poor, worn-out fields where other grass will not thrive, growing from 4 to 12 inches high according to the fertility of the land. It fertilizes the soil by the decay of its stubble, as clover does, or by turning under as green manure. Japan Clover is not hardy north of Virginia. Sow (if alone) 14 lbs. per acre; weight, 20 lbs. per bushel.

Price, \$6.50 per bushel; 35 cents per lb.; \$30.00 per 100 lbs.



JAPAN CLOVER.



SAINFOIN.

(*Onobrychis sativa. Esparsette, French Grass, Holy Hay.*)

Root perennial. Time of flowering, June and July. Height, 2 to 3 feet.

An excellent fodder plant, particularly for southern and western sections, for light, dry, sandy, gravelly, limestone or chalky soils. It flourishes during long droughts, owing to its long descending tap roots, which have been found 16 feet long. It succeeds where many other grasses will not. In some parts of France and England it has been grown for years, and is without doubt a most important forage plant for calcareous districts in any country. It is very nutritious, and when fed to milch cows it improves the quality of the milk and may be given without producing "hoove." The quality of fodder more than compensates for the slight deficiency in quantity. The seeds are more nutritious than oats, and are eagerly eaten by fowls, causing them to lay. It may be sown either broadcast or drilled, but the former is preferred. The seeds are large, and require to be covered deeper than those of clover or almost any other agricultural seed. If sown broadcast, it will require five to six bushels per acre; if drilled, four to five bushels. In dry

MILLETS, SORGHUMS, &c.

(Prices subject to variation.)

COMMON MILLET. (*Panicum Miliaceum.*) Requires a dry, light, rich soil, and grows two and a half to four feet high, with a fine bulk of stalks and leaves, and is excellent for forage. Price on application.

GERMAN OR GOLDEN MILLET. (*Panicum Miliaceum, var. Aureum.*) An improved variety, medium early, growing three to five feet high. No other grass anywhere near approaches its enormous yield when grown under favorable circumstances. The heads are closely condensed, and the spikes are very numerous. The seeds round, golden yellow, and beautiful in appearance, and contained in rough, bristly sheaths. Our seed is pure and Southern grown, and yields much heavier crops than degenerate Northern and Western grown.

Price, 10 cts. per lb.; \$2.00 per bushel; \$4.00 per 100 lbs.

Hungarian Millet or Hungarian Grass. (*Panicum Germanicum.*) This species grows less rank, with smaller stalks. Its leaves are very succulent and it furnishes an abundance of green fodder, often yielding two or three tons of hay per acre. It is very popular and valuable with those who are clearing timber lands. (See cut.) Price, 10 cts. per lb.; \$1.75 per bush.; \$3.50 per 100 lbs.

PEARL MILLET. (*Pennisetum Spicatum.*)

brush, and it does not get red in the field before it is cut, but remains strictly green, and consequently always commands the highest market price.

Price, 15 cts. per lb.; \$6.50 per 100 lbs.

Egyptian Rice Corn. In our trials last season, we found this variety to be the best fodder plant of all the Sorghum family. It grew with us 10 feet high, 8 feet of which was good fodder. It has erect-growing large heads, resembling Rural Branching Doura. We strongly recommend this variety for fodder.

Price, 15 cts. per lb.; 6 lbs. for 70 cts. (sufficient to plant an acre); \$10.00 per 100 lbs. (Weight, 50 lbs. per bushel.)

TEOSINTE. (*Reana Luxurians.*) A semi-tropical forage plant, considered by many to be superior to Sorghum or Millo Maize. The plant resembles Indian Corn, but is more compact and slender. It suckers more than any other forage plant, and produces 3 to 4 cuttings of good fodder during the summer. There has hitherto been great difficulty in getting seed that will grow, and this has retarded its cultivation. Our tests of Teosinte last year showed an average germination of 90%, and there is no reason to fear that this cannot be kept up.

Price, 1.25 per lb.; 100 lbs., \$100.00.

RURAL BRANCHING DOURA. (*Millo Maize, Sorghum Vulgare.*) A wonderfully productive fodder plant that has been thoroughly tried, and is seemingly superior to all others for soiling, silos, and green or dry fodder. It has great capacity for standing drought, and can be cut at any stage, or cured for fodder. It shoots out strongly, 6 to 16 stalks are frequently produced from one seed, and it starts a new growth rapidly after being cut for fodder, makes a great amount of foliage, and can be cut for green feed several times in the season. Plant and cultivate in the same manner as corn. 4 to 5 pounds required to plant an acre.

Price, 20 cts. per lb.; \$10.00 per 100 lbs.

YELLOW BRANCHING DOURA. (*Yellow Millo Maize.*) This is earlier than the Rural Branching, and of taller growth, often attaining a height of 9 to 12 feet, but it does not stool out quite as much from the ground, although it branches out from the joints. Its seed heads grow very large and heavy on good ground, and when ripe hang over, and the grains are large and plump, and double the size of the Millo Maize, and are of a deep golden color. It produces an enormous quantity of green fodder, for which stock show a marked partiality. Cultivate same as corn; plant 4 lbs. to the acre. Price, 20 cts. per lb.; \$12.00 per 100 lbs.

Kaffir Corn. A variety of Sorghum, cultivated for both forage and grain. A non-saccharine Sorghum, growing from $4\frac{1}{2}$ to 6 feet high, is stocky and erect, and has wide foliage. Kaffir Corn has the quality common to all Sorghums of resisting drought, and in this fact is to be found its peculiar value to Southern sections. It has yielded paying crops of grain and forage even in dry seasons, when corn has utterly failed. The culture is the same as for Field Corn. (See cut.) Circulars, with full particulars as to culture, etc., on application. Price, 15 cts. per lb.; \$8.00 per 100 lbs.



HUNGARIAN MILLET.

This has been cultivated for some years in some of the Southern States, under the names of African Cane, Egyptian Millet, Japan Millet, Cat-tail Millet, and Horse Millet. It grows with tropical luxuriance in strong loamy soil, particularly if well enriched, and then attains a height of from 7 to 9 feet, and produces an enormous quantity of green fodder, for which purpose it can be cut several times during the season, as it immediately starts a new growth after cutting, and grows with great rapidity. It will prove of exceptional value if grown in sections subject to protracted droughts, where natural grasses dry up, as it will keep on growing, though of course not so luxuriantly. It is best sown in drills 20 inches apart, in beds 12 feet wide, leaving an alleyway 6 feet wide between the rows, so that there will be space enough to cure the fodder on an extemporized fence.

Sow in drills, 5 to 6 lbs. per acre; if broadcast, 8 lbs. per acre. Weight per bush., 56 lbs.

Price of Clean Seed, 20 cts. per lb.; or by mail, 30 cts. per lb.; \$14.00 per 100 lbs.

EARLY AMBER SUGAR CANE. A variety which has been largely tested in many parts of the country with great success. Being of somewhat slim growth, it does not stand droughts of the South as well as the Early Orange, but for growing North it is unsurpassed. It is exceedingly early, and makes the finest quality of syrup and sugar.

Price, 15 cts. per lb.; \$6.00 per 100 lbs.

EARLY ORANGE SUGAR CANE. Yields about twenty-five per cent. more cane, and is also much more succulent than any other variety. The stalks are much heavier, but not quite so tall, and it is a little later than the Amber, and is better adapted for culture in the South. It does not succeed well north of 43 degrees.

Price, 15 cts. per lb.; \$6.00 per 100 lbs.

BROOM CORN, EVERGREEN. This variety is of great value from the fact that it is entirely free from all crooked



KAFFIR CORN.

EARLY BUTLER DENT CORN.

The Earliest Dent Corn.

This new variety is a cross from Pride of the North and has the smallest cob of any Dent Corn in cultivation. It is also the very earliest Dent Corn and is very profitable to grow. By actual test 70 lbs. of ears have shelled out 64½ lbs. of shelled corn, leaving only 5½ lbs. of cobs. It is just the corn for northern farmers, as it will ripen farther north than any other of its class. It grows quick, rank, strong, has small cobs, very long grains, and good-sized ears of a beautiful yellow color.

15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

crop north of Pennsylvania, although the past Long Island. The ears are uniformly well filled shelled corn to a given bulk of ears than any other variety. 15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

GOLDEN BEAUTY.—This new corn has given most excellent satisfaction. At the Pennsylvania State Fair it was awarded first prize. It is exceedingly productive; a large proportion of the stalks produce two fine ears. It is undoubtedly the largest grain and handsomest yellow corn. The ears are of perfect shape, with from ten to fourteen rows, and filled out completely to the extreme end of cob. The cobs are unusually small. The richness of color and fine quality of grain make it very superior for grinding into meal. Grows 8 to 10 feet high, and matures early and surpasses all varieties of the Golden Dent in size and beauty of grain and immense productiveness. In 1885, one farmer in Connecticut raised 158½ bushels shelled corn on one acre, and another in Pennsylvania, 117 46-56 bushels. (See cut.) 15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

QUEEN OF THE PRAIRIE.

(Pride of the North.) (Early Golden Dent.) This variety is valuable to grow North, as it matures early. Planted as late as July 4th, it has fully matured by October 1st.

The ears grow 8 to 10 inches in length, from 14 to 16 rows, slightly tapering. The kernels are closely set together on the cob, of a light orange color at the outer end, darker in color lower, and makes excellent meal.

The stalks usually grow 6 to 8 feet in height, producing one or two good ears each. It takes a firm hold on the soil. 15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

GOLDEN BEAUTY.

FARMERS' FAVORITE.—Ripens early and hence succeeds where many varieties will not mature. Produces unusually well, even on light land. With ordinary cultivation it frequently yields ninety to one hundred bushels of shelled corn per acre. The ears are of large size; small, red cobs, well filled out to the end, with large deep grains, of a most beautiful, bright, golden-yellow color. Grows about 8 to 10 feet high. 15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

FIELD CORNS, Dent Varieties.

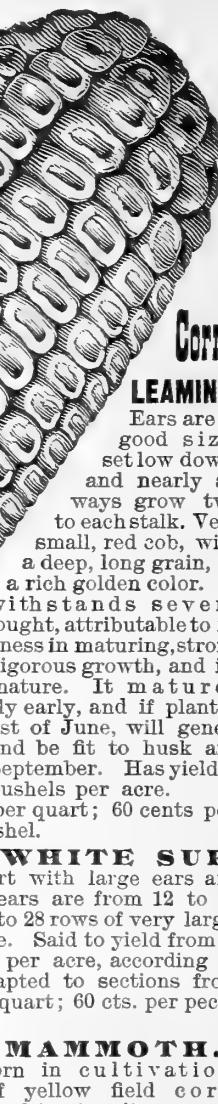
If wanted by mail add 15 cts. per quart for postage. Corn planted in hills requires eight to ten quarts per acre.

HICKORY KING CORN.—This new white field corn is entirely distinct and has the largest grains with the smallest cob of any white corn. So large are the grains and so extremely small the cob that a single grain almost completely covers the cob section. The stalks, of strong, vigorous growth, generally bear two good ears each, and occasionally three. It yields splendid crops even on light soil, and is undoubtedly the best and most productive white field corn, particularly for the south. It is not, however, considered a safe

season it made a fine crop on out, and it will make more

15 cts. per quart;

60 cts. per peck; \$2.00 per bushel.



Corn.

LEAMING.

Ears are of good size, set low down, and nearly always grow two to each stalk. Very small, red cob, with a deep, long grain, of a rich golden color. It withstands severe drought, attributable to its earliness in maturing, strong and vigorous growth, and its stocky nature. It matures reasonably early, and if planted by the first of June, will generally ripen, and be fit to husk and crib early in September. Has yielded one hundred bushels per acre.

15 cents per quart; 60 cents per peck; \$2.00 per bushel.

MAMMOTH WHITE SURPRISE.

A new sort with large ears and very small cob. The ears are from 12 to 14 inches long, with from 14 to 28 rows of very large, deep grains. Very productive. Said to yield from 75 to 125 bushels of shelled corn per acre, according to soil and season. Specially adapted to sections from Pennsylvania south. 15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

CHESTER COUNTY MAMMOTH.

One of the largest varieties of field corn in cultivation; will outyield every other variety of yellow field corn, excepting Golden Beauty. Under good cultivation it averages 100 to 140 bushels of shelled corn per acre. The ears are very large, containing 14

to 32 rows of medium-sized yellow grains, very sweet and nutritious.

It furnishes a large amount of fodder, growing 12 to 16 feet high. It is, undoubtedly, one of the best yellow field varieties for rich land in this latitude or the South. 15 cts. per qt.; 60 cts. per peck; \$2.00 per bushel.

EARLY MASTODON DENT CORN.

The Earliest LARGE Dent Corn.

Produces large ears for an early variety. It grows strong at a medium height, with broad, heavy leaves, and makes the finest shelled corn in appearance of any, being purely Dent, of two shades of white and yellow. We can recommend the Mastodon as being one of the best large-eared early corns in existence. Being early, it can be used far north, where many other varieties would not mature. Within eight miles of Lake Erie this corn ripened within ninety to one hundred days.

15 cts. per quart; 60 cts. per peck; \$2.00 per bushel.

All the above varieties in 10-bushel lots, \$1.75 per bushel.

FIELD CORNS, Flint Varieties.

CORN.

KING PHILIP.

Coppery red. Very early. This is one of the oldest and best known of the flint varieties. Usually matures three months after planting. Ears large sized and handsome, measuring 10 to 12 inches long. 15 cts. per qt.; 60 cts. per peck; \$2.00 bushel.

POP CORNS.

White Pearl. Smooth grained ears, 4 to 5 ins. long, by $\frac{7}{8}$ to $1\frac{1}{8}$ ins. diameter, good for either family or market use. Price, \$8.00 for 100 lbs.; 10 cts. per single lb., or by mail 20 cts. per lb.

EARLY AMBER RICE. A new and distinct shade of color, it matures very early and is in every respect a first-class pop corn. Price, \$18.00 per 100 lbs.; single lb., 20 cts., or by mail, 30 cts.

WHITE RICE. (Rat Tooth.) A very fine white variety, ears 4 to 5 inches in length, and 1 to $1\frac{1}{2}$ in diameter. Kernel pointed. Especially salable among the retail grocers. Price, per 100 lbs., \$8.00; per lb., 10c.; by mail, 20c.

SWEET FODDER CORN, For cutting green for fodder and for soiling. This is better than any field corn, from the fact that it is so very sweet and nutritious, that cattle will eat every part of the stalk and leaves with relish. Drill thickly, in rows three feet apart, using $1\frac{1}{2}$ bushels of seed per acre. If sown broadcast use 3 bushels per acre. \$2.00 per bush.

"PLANT FODDER CORN."

"It is probable that every August thousands of farmers resolve that the next spring they will put out a field of fodder corn, yet break the resolution when spring comes. It is the rare exception that July and August do not shorten the pastures. Some seasons the pastures are almost burnt up; if there has been no provision made for other feed at this season the animals must lose flesh, and the cows must fall off in their milk product, or else grains and purchased food must be fed liberally. Fodder corn is cheaper than loss of flesh or grain. Allowing the animals to lose flesh is very wasteful. It will require at least twice as much food to regain the flesh as to retain it. Every year the testimony becomes stronger that fodder corn should not be sown broadcast. It may be planted in hills, but the largest crops, except on very foul land, can be raised by planting in drills. Fodder corn should be planted in rows at least three feet apart, and as well cultivated as field corn."—American Agriculturist.

The best varieties to plant for fodder are Southern Horse Tooth and Sweet Fodder, described above.

LONGFELLOW.—A large 8-rowed yellow flint variety well adapted for the Northern States. This fine field corn is the result of careful selection in a family of Massachusetts farmers for 45 years. The ears are remarkably long (see cut), some of them measuring fifteen ins., and oftentimes two or more good specimens grow on one stalk. Grain large and broad and yellow. The cob is quite small. It is the largest variety of yellow field corn safe to plant in the latitude of Massachusetts, where it is quite extensively grown. One grower reports 115 bushels shelled corn from an acre.

This is the variety that took the first premium among the flint corns at the great exhibition at Chicago a couple of years ago.

15 cents per quart;
60 cts. per peck; \$2.00 per bushel.

COMPTON'S EARLY.—The earliest known yellow flint variety, ripening in from 76 to 85 days. It is a handsome 10 and 12 rowed sort, very productive, and will ripen in the Northern States. Ears 10 to 12 inches long. Stalks 8 to 10 feet in height. Ears well filled. 15 cts. per qt.; 60 cts. per pk.; \$2.00 bush.

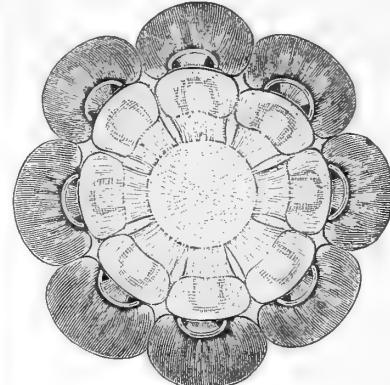
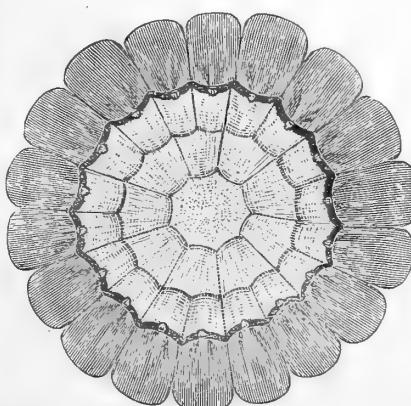
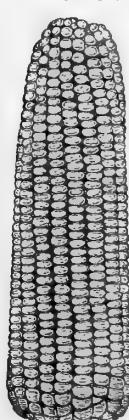
LARGE WHITE FLINT.—Handsome ears, large and well filled, kernels white and of fine quality. A productive and first-class sort. 15 cts. per quart; 60 cts. per peck; \$2.00 bushel.

LARGE YELLOW FLINT.—(Early Canada Yellow.) Similar to the above excepting in color; largely grown in the extreme north; matures in about 90 days. 15 cts. per quart; 60 cts. peck; \$2.00 bushel.

GOLDEN DEW-DROP.—It is a most reliable flint variety for northern planting, as it grows quickly and matures early; is eight-rowed, looks a little like the Canada Yellow, but the grain is brighter in color. Cob white and very small. (See cut.) As a rule, the flint varieties are not as good yielders as the dent sorts, but the Golden Dew-drop produces two or three ears to the stalk. The stalks will average 6 feet in height. 15 cts. per qt.; 60 cts. per pk.; \$2.00 bush.

SOUTHERN HORSE TOOTH.—(Dent).—Valuable for fodder and ensilage. \$1.25 per bus.

COMPTON'S EARLY
(FLINT) CORN.



Excepting Fodder and Pop Corns, all the above varieties in 10-bushel lots, \$1.75 per bushel.

WINTER WHEATS.

Prices (subject to the fluctuation of the market). Prices on application.

Produces
the
highest
grade
of
Flour
known.

The
coming
Wheat
for
the
Eastern
States.



The Grandest Winter Wheat Ever Offered.

PRICES OF WINTER WHEATS ON APPLICATION.

JONES' WINTER FIFE (Bald).

A boon to farmers and millers. The most desirable Winter sort known, yielding from 40 to 55 bushels per acre. This is, without doubt, the coming No. 1 hard gluten sort of the East, being to the Winter Wheat sections what the No. 1 Hard Spring is to the Northwest; excelling in the amount of gluten even the noted Saskatchewan Spring Fife, the pride of all North-western millers. It is well known that millers in the Winter Wheat sections are obliged to use a certain amount of Spring Fife to obtain gluten, in which our common sorts are in a degree deficient, and without which it is impossible to compete with the Spring Wheat sections. But with this sort in general cultivation we can compete with the highest grade of flour known. This sort originated from a combined cross. The first cross being from Mediterranean and a seedling, this seedling being a cross between Mediterranean and Fultz, which was crossed with Velvet Chaff. It is a very strong grower, covering the ground early in the season, requiring light seeding on rich soil. Straw is above medium height and very strong. Heads long and broad, free from beards, with breasts overlapping each other. Ripens early, and has a velvet-like glisten in the sun. Grain of medium size; requires to be left until fully ripe before being harvested, and does not shell in the field. Transparent, hard and dark, weighing more to the bushel than any other sort. (See cut.)

EARLY RED CLAWSON (Bald).—The coming new Wheat, and the earliest Winter variety extant. This promising sort is a cross between the popular Golden Cross fertilized on the Clawson, partaking from the Golden Cross the compact head, dark red grain, extreme hardness, and strong, rapid growth, and from the Clawson baldness and red chaff, with very large kernels. It is, without doubt, the earliest sort yet known, enormously productive, yielding from 35 to 48 bushels to the acre. Straw very strong and bright; requires light seeding on rich, strong soil, $1\frac{1}{2}$ bushels being sufficient. We would call special attention to this sort for heavy clay soils. The grain is very dark and hard.

Fulcaster (Bearded).—A variety that has already gained considerable popularity as a reliable sort. Berry red, large, hard and of good milling quality. Straw very stiff, of medium length. It has yielded at the rate of 48 bushels per acre.

Golden Cross, Red (Bearded).—This valuable new variety comes from splendid parentage, being a hybrid of the Mediterranean and Clawson. It is an enormous yielder, is light-bearded and compact-headed. Straw large, hard, thick, strong-pointed, which is proof against the attack of the Hessian fly. It is early, strong and rapid-growing, producing stools of mammoth size, and yields from 50 to 60 bushels per acre. The kernels are large and plump, weighing on an average 65 lbs. to the measured bushel.

WINTER WHEATS.—Continued.

American Bronze. (Bald.)—Although especially adapted to poor soils producing a good crop when most other sorts would prove a complete failure, it is also one of great value on rich, moist land on which long and soft strawed sorts would go down. It is of medium height and the *thickest walled straw in cultivation, resisting severe wind-storms without lodging*. It is a very strong grower and of spreading habit, requires light seeding if sown on rich soil. Heads are long and broad, chaff white, grain large and of a rich bronze shade, the color being very distinct when grown on light soils. It is early, very productive, and *especially free from rust even in unfavorable seasons*.

Fultz. (Bald.)—A very popular, beardless amber variety, very hardy and productive. Straw of medium length, and strong. It is an excellent milling sort, making the finest flour.

Hybrid Mediterranean. (Bearded.)—A well-known, standard Winter Wheat. It produces large, square heads, with four rows of grain, having short beards. The straw is stiff, of medium length, bronze at maturity. The grain is of a handsome, amber red color, hard and flinty, making excellent flour. We

recommend it as one of the surest and best for ordinary farms and conditions.

The Martin Amber. (Bald.)—The berry is a light amber color, good size, very plump and handsome, and has a very thin hull, makes but little bran, and yields a large return of flour of the best quality.

Jones' Square Head White. (Bald.)—This promising sort is making a splendid record in all sections where tested. It is a seedling grown from a cross between the Armstrong and a seedling not named. It is, without doubt, the most handsome in head of any sort in cultivation, and a very strong grower, with straw of great strength supporting a large square head filled with white grain of superior quality.

Rochester Red. (Bald.)—A new variety of great promise, heads larger than the average varieties, red chaff and red grain; medium large and very flinty, one of the best for milling purposes; has a stiff straw and does not lodge with high culture; is medium early, ripening with or a little before the Fultz. In a favorable season the yield was fifty bushels per acre, and when well grown and well cleaned will weigh sixty-four pounds to the measured bushel.

Prices of Winter Wheats on application.**SPRING WHEATS.**

Saskatchewan Fife.—This is considered the best No. 1 Spring Wheat yet introduced, and is unequaled for great productiveness, earliness, vigor, and freedom from smut and diseases. The highest authorities pronounce it to be the most valuable milling wheat in the world. Price, \$2.25 per bushel.

Wellman Fife.—An improvement on the well-known and favorite Saskatchewan, having larger heads and grain, and the straw taller and stronger with white chaff heads and dark kernels. Is enormously productive, outyielding all other Spring Wheats. \$1.00 per peck, \$3.00 per bushel.

BUCKWHEAT, BARLEY AND RYE.**BUCKWHEAT.**

NEW JAPANESE. (*Introduced into cultivation by us in 1887.*)—It is seldom that such a sterling variety as this is placed before the agricultural community, and we would advise all who are growers of Buckwheat to give this new and distinct Japanese variety a trial in preference to any other variety, whether it be for milling, for the apiary or aviary. A glance at our illustration will show that the kernels are at least twice the size of those of any other variety, and of a shape peculiar and distinct from all others. The color of the kernels is also most distinct, being a rich dark shade of brown. The straw is heavier; it branches more and does not need to be sown as thickly as the other kinds. (*See cut.*) \$1.40 per bushel; 10 bushel lots, \$1.30 per bushel.

Early Orders are respectfully solicited to prevent disappointment, as the demand has far exceeded the supply in the past.

Truly the Japanese Buckwheat is one of the greatest improvements, in a single line of grain, of the present age. All other kinds of buckwheat can be well thrown aside; and not only the bee-keepers of our land, but farmers in general, can unite in tendering a vote of thanks to our enterprising seedsman, Peter Henderson. —“GLEANINGS IN BEE CULTURE.”

I prefer the Japanese Buckwheat to all other kinds.—F. N. HILTON, Pontiac, Mich.

Common or American.—Yields an average of from 20 to 30 bushels per acre. Price, \$1.25 per bushel.

BARLEY.

New White Hullless Barley.—A valuable new variety, which should be sown at the rate of $1\frac{1}{2}$ bushels per acre, about the time of sowing Oats. It is two or three weeks earlier than ordinary Barley, grows about the same height, and will not shatter in the field, even when very ripe. The grain is not unlike Wheat, and weighs about 60 lbs. per bushel, instead of 48 lbs., as other Barley. For feeding to horses and hogs, when ground, it is unequaled. \$1.00 per peck; \$2.50 per bushel of 48 lbs.

Two-Rowed Duck-Bill.—The heads are of great length, and when maturing become slightly curved; the grains are large and plump, and brighter than any other variety of two-rowed Barley. The straw is stronger than the old popular Chevalier

Barley, and has yielded nearly 70 bushels per acre. Price, 50c. per peck; \$1.75 per bushel.

Vermont Champion.—Two-rowed, early, hardy and prolific. 60c. per peck; \$2.00 per bushel.

Manshury.—One of the very best six-rowed Barleys grown, with kernels plumper and fuller than the best Scotch Barley, while for malting it is unsurpassed. Is early in ripening and always plump, has strong upright straw and yields from 50 to 70 bushels per acre. The heads are very long and contain from 75 to 100 great plump, heavy kernels. Prof. Henry, of Wisconsin Agricultural College, in his report says: “The Manshury heads the list in productiveness.” 75c. per peck; \$2.50 per bushel.

RYE.

Rye is a valuable crop for either soiling, green fodder, straw or grain. It is largely used by farmers to seed down with in the fall, and is considered preferable to wheat for this purpose, as it protects the young grass and matures two weeks earlier in the summer than wheat.

Excelsior Winter.—A new variety from Vermont, that has never failed to yield at the rate of from 40 to 50 bushels per acre. With the originator, a four-acre field yielded 52 bushels to the acre. \$2.00 per bushel; 10-bushel lots, \$1.75 per bushel.

Spring.—A variety produced by planting Winter Rye in the

spring for several years, and selecting the seed until the type was fixed. It is an excellent “catch-crop” where fall-sown grain has been winter-killed, and also for fodder and grain. \$2.25 per bushel.

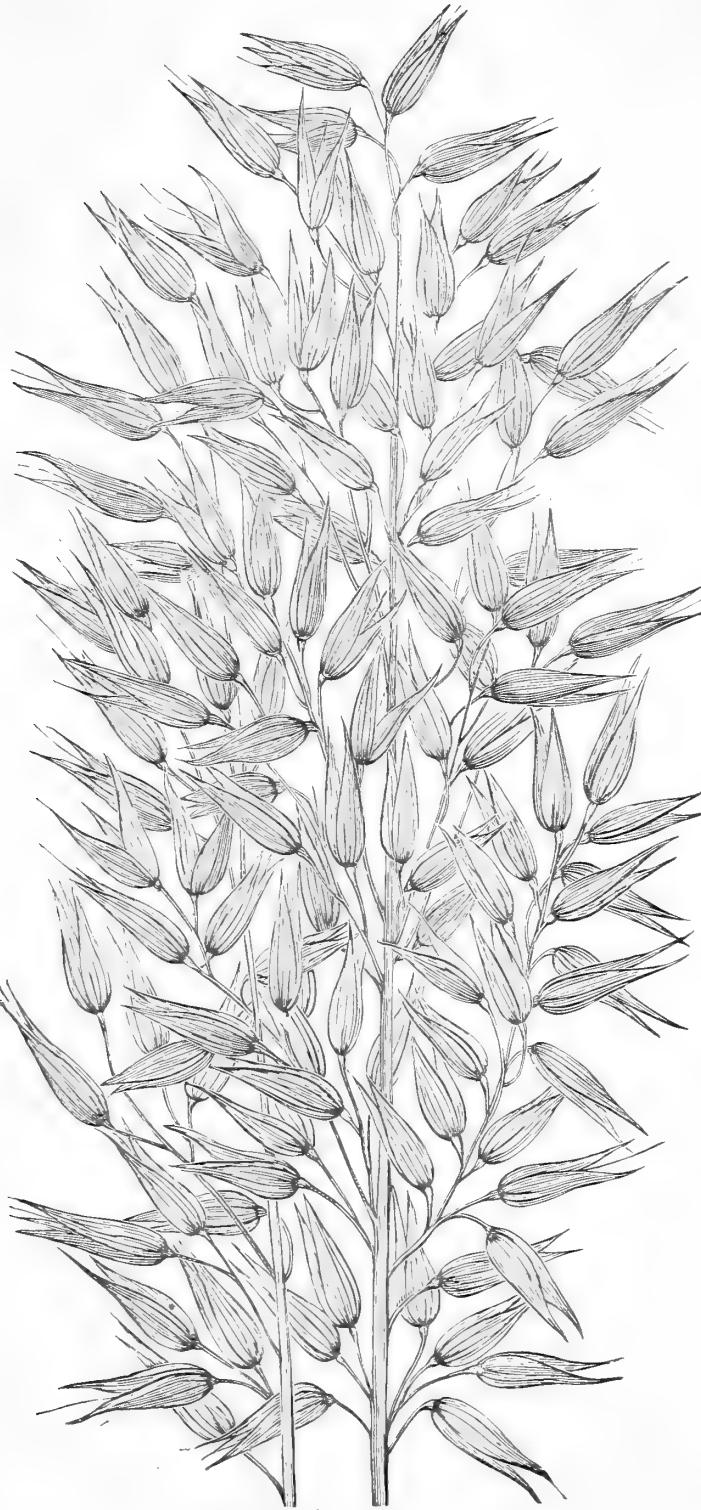
Winter.—The variety most commonly cultivated, whether sown for grain, straw or cutting green. \$1.35 bush.; 10-bush. lots, \$1.25.



NEW JAPANESE BUCKWHEAT.

CHOICE SEED OATS. SELECTED

In the "Ohio Farmer," Mr. J. T. Hickman, of the Ohio Agricultural Experiment Station, states that samples of Henderson's Clydesdale Oats and Clydesdale Oats procured from other sources have shown, in a series of experiments, in favor of Henderson's Clydesdale. He also states that the average yield of Clydesdale Oats procured from other sources was something like nine bushels per acre below the results obtained from Henderson's Clydesdale.



HENDERSON'S CLYDESDALE OATS.

HENDERSON'S CLYDESDALE.

Natural weight, 50 lbs. per bushel.

The Heaviest, the Earliest and most Prolific White Oat in Cultivation.

Since we introduced this Grand Oat a few years ago it has steadily and deservedly gained in popularity, until to-day it is the **most popular High-Grade White Oat in the United States.**

The climate of America is unsuited to the production and maintenance of the highest grade of oats, and unless a heavy imported (British) oat be used for seed purposes at least every second or third year, they become light, "chaffy," inferior in quality and unprofitable. The ultimate financial benefit accruing to the American farmers by the annual distribution of several thousand bushels of **Henderson's Clydesdale Oats** cannot be overestimated. These oats weigh naturally 50 lbs. per measured bushel, and they deteriorate in weight only from three to four lbs. each year they are grown here, so that the produce is worth for seed purposes at least double the market value of ordinary oats. **No other oat can show such a record—75 to 100 bushels per acre, and double the usual quantity of straw.** We offer these oats for sale at the weight of 50 lbs. per bushel, exactly as grown for us in Britain, so that those purchasing will actually receive for every bushel **over one and one-half bushels** according to the American standard, which reduces the price of "**The Clydesdale**" to \$1.44 per standard bushel of 32 lbs. Another most important advantage of **Henderson's Clydesdale Oats** to the farmer is the fact that they have been thoroughly cleaned by the latest and most improved machinery, and are absolutely free from foreign and weed seeds. (*See cut.*) Price, by express or freight, \$1.00 per peck; \$2.50 per bushel (of 50 lbs.) Or we will supply **three bushels (150 lbs.), the quantity to seed an acre, for \$7.00. 10 bushels and upwards, \$2.25 per bushel.**

Last spring I received through Austin Corbin, of New York, one hundred pounds of your celebrated Clydesdale Oats, and which I sowed on one and three-quarter acres of ground, and have just threshed 170 bushels of the finest oats that were ever seen in this part of the country. I write you this statement to acknowledge the great benefit you have bestowed on the grain-growing territory of the country by furnishing such seed; the ground was new ground and rough, and I hope to increase the crop another year. This grain weighs 48 lbs. to the bushel.—ROBERT WOLF, Canvas Prairie, I. T.

Please save me for spring planting 50 bushels of the very heavy oats (Clydesdale, P. H. & Co.), such as I sent a few bushels of to Idaho last spring, to a Mr. Wolf. He writes me that on one and three-quarters acres his crop was 170 bushels.—AUSTIN CORBIN, New York.

The Clydesdale Oats were very nice,—10 bushels from a single peck. They were sown after all the others but ripened before any of them.—M. WEIDMAN, West Davenport, Del. Co., N. Y.

I have Clydesdale Oats weighing 43 pounds, machine threshed; I think if they were cleaned over they will weigh 45 pounds. I have sown them now two years, and I think they have deteriorated very little during that time.—IRA C. LAMBERT, Westfield, N. J.

The bushel of Clydesdale Oats purchased from you last year exceeded my expectations. They were the finest-looking half-acre of oats I ever saw, and attracted many passers-by. The yield was 45 bushels in plump, heavy oats, with common broad-cast sowing, and no cultivation or fertilizing.—JAS. F. CARL, Great Bend, Pa.

BRITISH (Imported) OATS.

We offer the following standard British varieties:
Hopetoun. A white potato oat of great value, producing plump short oats; a heavy yielder; straw long and strong, averaging 44 lbs. to the bushel. Price, 75c. peck; \$2.10 bush.
Black Tartarian. The most prolific and distinct variety of black oat grown. Its ear is carried all on one side; it is very early, long and strong strawed, and bears a short, plump grain. It has become exceedingly popular for its adaptation to all soils and splendid quality. The oats will weigh 40 lbs. to the bushel. Price, 50c. per peck; \$1.50 per bushel.

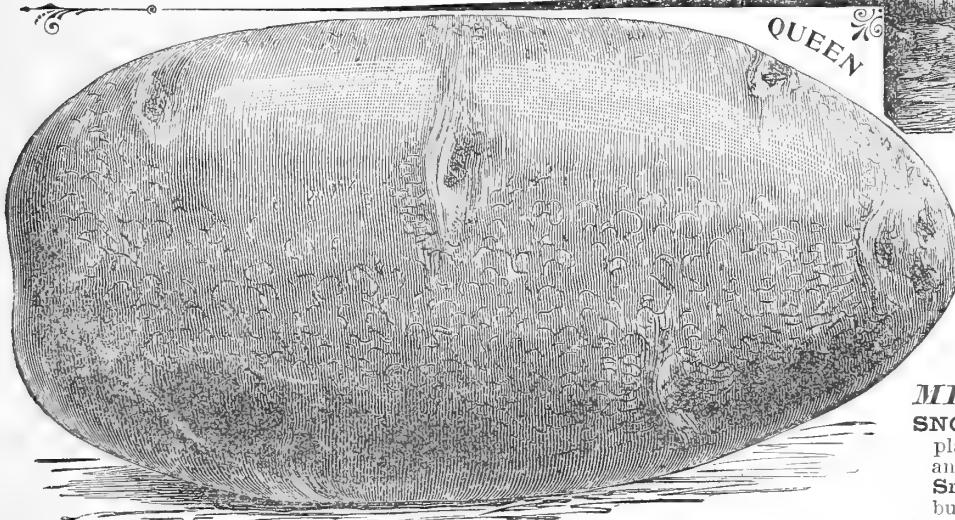
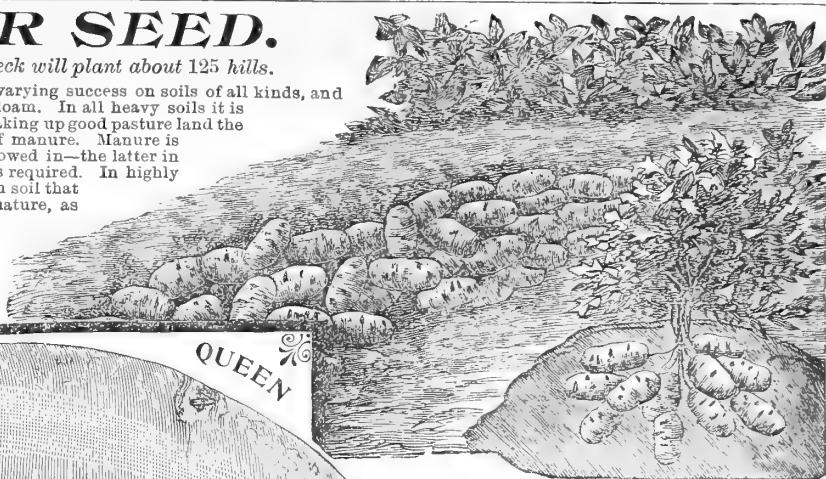
AMERICAN OATS.

Probestier. A leading white variety. It is very productive and heavy, and straw very strong. It is of Scandinavian origin, but well adapted to this climate; it ripens two or three days later than the common variety, but yields much better. \$1.00 per bushel (32 lbs.).

POTATOES FOR SEED.

In drills 3 feet apart; 12 to 14 bushels to the acre. 1 peck will plant about 125 hills.

The Potato, like all robust-growing vegetables, can be grown with varying success on soils of all kinds, and in all conditions of fertility, but the soil best suited to it is a sandy loam. In all heavy soils it is more subject to disease, and the flavor also is much inferior. In breaking up good pasture land the decaying sod answers sufficiently well for the first year in lieu of manure. Manure is applied either in rows or hills, or broadcast over the hills and plowed in—the latter in most cases being preferable. If the soil is good, but little manure is required. In highly enriched soil the plants are more liable to disease than when grown in soil that is naturally good. The best fertilizers are those of a dry or absorbent nature, as plaster, lime, superphosphate of lime and bone dust. For wet soils these are particularly beneficial, as they not only promote growth but prevent disease. Plant as early in spring as the ground can be had in fair working order, in hills or ridges about three feet apart, covering in light warm soils about four inches deep, but in cold, wet situations two and one-half or three inches will be sufficient.



EARLY VARIETIES.

QUEEN. A grand potato of recent introduction, closely resembling Beauty of Hebron in appearance, color, size and shape, but is much earlier and a heavier yielder. We strongly recommend it. (See cut.) 75c. peck, \$2.50 bush., \$5.00 bbl.

ROCHESTER ROSE. Of recent years, the Early Rose has not done well in some sections. The Rochester Rose, which we now offer, is a seedling of the above, and is an improvement in every respect. It will average larger in size, is equally early, and is a much heavier yielder. It possesses the same excellent cooking qualities as the parent variety. 70c. peck, \$2.25 bush., \$4.50 bbl.

HENDERSON'S EARLY PURITAN. Awarded the medal of excellence at the American Institute Fair in 1888. 75c. peck, \$2.50 bush., \$5.00 bbl.

VANGUARD. The earliest variety. The skin is the same color as the Early Rose, indented with few and shallow eyes; flesh white and mealy. 70c. peck, \$2.25 bush., \$4.50 bbl.

EARLY ROSE. The leading variety for earliness, quality and productiveness. 70c. peck, \$2.25 bush., \$4.50 bbl.

EARLY SUNRISE. Very early and productive. 70c. peck, \$2.25 bush., \$4.50 bbl.

EARLY MAINE. Claimed to be an earlier and a better cropper than the Early Rose, and smoother and more regular in shape. 70c. peck, \$2.25 bush., \$4.50 bbl.

BEAUTY OF HEBRON. One of the best early sorts; productive and of excellent flavor; a good keeper; pure white skin and flesh. 70c. peck, \$2.25 bush., \$4.50 bbl.

CLARKE'S No. 1. Earlier than the Early Rose and very productive. Cooks mealy. 70c. peck, \$2.25 bush., \$4.50 bbl.

PEARL OF SAVOY. Is certainly very early and productive. The tubers are oblong and of large size; the flesh pearly white and mealy. 70c. peck, \$2.25 bush., \$4.50 bbl.

THORBURN. A very desirable early variety; very productive, and of excellent quality. It is a seedling from "Beauty of Hebron," which it somewhat resembles, but it is a decided improvement on that variety. 70c. peck, \$2.25 bush., \$4.50 bbl.

CHAS. DOWNING. Oval, oblong form and pure white color. One of the earliest sorts, of splendid quality. Enormously productive. 70c. peck, \$2.25 bush., \$4.50 bbl.

Our Potatoes are all specially raised for seed purposes and are "Northern Grown." Prices subject to variation. We deliver all potatoes into the hands of transportation companies safely packed; after that our responsibility ceases. Purchasers must take all risks from freezing or heating. In comparing our prices on Potatoes, remember we make no charge for barrels or cartage, but deliver F. O. B., N.Y., at prices quoted.

MEDIUM EARLY VARIETIES.

SNOWDROP. We do not recommend it for planting for market use, but, where quality and not quantity is desired, we believe the Snowdrop to be unequalled. 70c. peck, \$2.25 bush., \$4.50 bbl.

RURAL NEW YORKER No. 2. Large and smooth variety, of excellent quality; white skin and flesh, with few and shallow eyes. 70c. peck, \$2.25 bush., \$4.50 bbl.

RURAL BLUSH. An excellent variety having a beautiful blush skin. It is of first-rate quality and cooks through dry and evenly. A very heavy yielder. 70c. peck, \$2.25 bush., \$4.50 bbl.

MAIN CROP VARIETIES.

RESTAURANT. If you wish to raise a big crop of large, handsome potatoes, this is the sort to plant. It is of large size, is an enormous yielder, and, for a main crop variety, cannot be excelled. 75c. peck, \$2.50 bush., \$5.00 bbl.

LATE PURITAN. The Early Puritan Potato, which we introduced, has probably attained a wider distribution and greater popularity on both continents than any new variety since the Early Rose. In the **LATE PURITAN** we have a potato which is identical with the Early Puritan in appearance, color and quality, but far more productive. 75c. peck, \$2.50 bush., \$5.00 bbl.

MONROE SEEDLING. A fine late variety, resembling Superior, and an excellent keeper. 70c. peck, \$2.25 bush., \$4.50 bbl.

SUPERIOR. A seedling from White Star. A very fine, late, white-skinned, kidney-shaped variety; a heavy cropper and a good keeper. 70c. peck, \$2.25 bush., \$4.50 bbl.

PRIDE OF THE WEST. A flattish-round, red variety; very large; eyes deep but few. The quality is unequalled; medium late; unusually strong grower, and considered to be the heaviest cropper in America. 75c. peck, \$2.25 bush., \$4.75 bbl.

BILL NYE. A valuable new white kidney variety. It is very smooth and handsome, eyes unusually shallow. 75c. peck, \$2.25 bush., \$4.75 bbl.

EMPIRE STATE. A main crop variety, wonderfully productive. The skin is white and smooth, flesh pure white, of fine flavor, and cooks very evenly. 70c. peck, \$2.25 bush., \$4.50 bbl.

ST. PATRICK. Handsome, smooth and regular; oblong in shape, with very few and shallow eyes. It is a large yielder and of the first quality. 70c. peck, \$2.25 bush., \$4.50 bbl.

MORNING STAR. A late sort, of better quality than most of the heavy croppers. 70c. peck, \$2.25 bush., \$4.50 bbl.

WHITE ELEPHANT. Late, large, good quality and enormously productive. 70c. peck, \$2.25 bush., \$4.50 bbl.

WHITE STAR. Large cropper; cooking qualities of the best; a good keeper. 70c. peck, \$2.25 bush., \$4.50 bbl.

SPECIAL PRICES FOR LARGE QUANTITIES OF POTATOES ON APPLICATION.

ROOT CROPS for FARM STOCK

These are not grown as extensively in America as they might be. They have been grown in Europe for this purpose for many years, and considering how well the American climate and soil are adapted to their culture, it is surprising how little attention has been given to their culture in this country, particularly when we take into account our special necessities arising from our long, dry summers, which diminish the yield of the hay and other fodder crops, as well as our long winter feeding season, in which some succulent food, such as roots, is so useful to feed with hay and other dry provender. Every farmer should have a few acres of agricultural root crops on his farm, and he will find them invaluable for feeding his stock during the winter. Many have the idea that it is impossible, or at least difficult, to protect such crops during the winter, but when it is considered that in Canada they are much more largely grown than in the United States, and that they can be "pitted" with safety even in the most rigorous winter, it will be readily seen that this idea is erroneous.

For more complete directions in regard to culture and storing root crops, see "How the Farm Pays." Price, \$2.50 by mail, or furnished free on orders amounting to twenty dollars or over, accompanied with the cash.

MANGELS.

Mangels are the most important of all root crops for feeding, and may be grown in any part of the American continent on fairly good farm land; all that is necessary is good cultivation.

The best soil for Mangels is loose friable loam and deep plowing. If expedient, follow the plow with a subsoil plow, and the crop will more than repay the extra trouble. The ground should be well enriched, and the seed sown in May in drills 24 inches apart in light soils, and 30 inches apart in strong, rich land; thin out the plants with a hoe to 9 inches apart in the former and 12 inches apart in the latter. 6 to 8 lbs. of seed are used per acre if sown with a drill, or double that quantity by hand. Cultivate with a horse hoe.

If by mail in quantities of $\frac{1}{2}$ lb. and over, add for postage at the rate of 8 cents per lb.

LONG OR TANKARD-SHAPED.

HENDERSON'S COLOSSAL LONG RED.—The roots are smooth and regular, of the largest size and blood-red color. The quality is exceedingly nutritious, and in all respects this variety is most distinct and valuable. (See cut.) 35 cts. lb.; in lots of 10 lbs., 30 cts. per lb.

HENDERSON'S GIANT INTERMEDIATE.—This is a variety between the Golden Tankard and Yellow Globe. It is larger than the Tankard, not such a rich golden color, but a heavier cropper. 40 cts. lb.; in lots of 10 lbs., 35 cts. lb.

GOLDEN TANKARD.—The flesh is bright golden yellow, and in this respect differs from most other varieties, which cut white. The Golden Tankard is an exceedingly popular variety in Great Britain, where it is considered particularly valuable on account of its nutritious and milk-producing qualities. Sheep have a preference for this sort over other Mangels; it is said that they will pick out every piece of Golden Tankard before touching others. It yields under the best cultivation 75 tons per acre. (See cut.) 40 cts. per lb.; in lots of 10 lbs., 35 cts. lb.

LONG RED.—This variety is more generally grown for agricultural purposes than any other, producing roots of large size and excellent quality. 30 cts. lb.; in lots of 10 lbs., 25 cts. lb.

LONG YELLOW. Differ from the Long Red only in color. 40 cts. lb.; in lots of 10 lbs., 35 cts. lb.

GLOBE-SHAPED.

HENDERSON'S CHAMPION YELLOW GLOBE.—Smooth, globe-shaped roots, of large size and excellent quality, are the distinctive features of this variety. 35 cts. lb.; in lots of 10 lbs., 30 cts. lb.

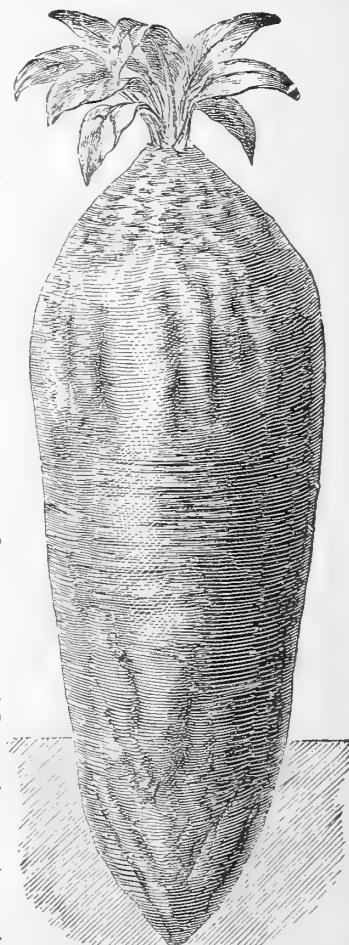
YELLOW GLOBE.—Roots of large size and globular form; very productive; keeps better than the Long Red, and is better adapted for growing in shallow soils. 30 cts. lb.; in lots of 10 lbs., 25 cts. lb.

YELLOW OVOID.—In shape this sort is intermediate between the Long and Globe varieties. A very nutritious and valuable variety. 40 cts. lb.; in lots of 10 lbs., 35 cts. lb.

HENDERSON'S RED GLOBE.—A variety similar to the Yellow Globe in shape and size, and different only in color. 30 cts. lb.; in lots of 10 lbs., 25 cts. lb.

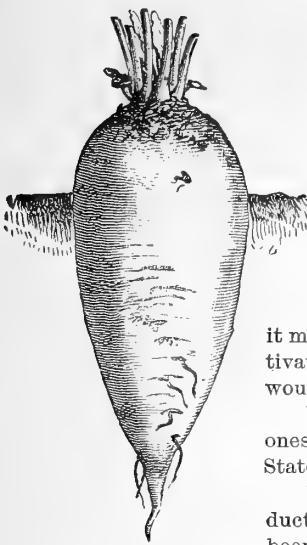
GOLDEN TANKARD MANGEL.

These Colossal Red Mangels of yours are fine, and give more feed to the acre than anything else I know of. They make grand winter feed.—JOHN W. NOBLE,
Grenoble Stock Farm, Metuchen, N. J.



HENDERSON'S COLOSSAL LONG
RED MANGEL.

* SUGAR * BEET. *



WHITE SUGAR BEET.

THE culture of Sugar Beet in the United States, and its manufacture into sugar, has long since passed the experimental stage. Thousands of acres are now grown, yielding a handsome profit, and its manufacture is a thriving industry.

To the farmer it is unequalled as a plant producing a large amount of cheap and useful food for farm animals, and it is of **special value to dairy farmers**. They are not such heavy yielders as Mangel Wurzel, but are of a superior quality, containing a larger amount of saccharine matter. Stored in pits or cellars they will keep throughout the entire winter and prove a valuable and succulent winter feed, increasing both the quantity and quality of the milk.

For stock-feeding, Sugar Beets may be grown in any section of the United States or Canada, and in general it may be said that any soil which will produce a good crop of Corn, Wheat or Potatoes will, under proper cultivation, produce a good crop of Sugar Beets. It is imperative that the land be well drained, however, and it would be useless to attempt to raise Sugar Beets on land without good natural or other drainage.

While for stock-feeding they can be grown in any section, the Central, Western and Eastern States are the ones in which they can be most profitably grown **for Sugar-making**, the climatic conditions in these States being favorable to the production of sugar.

While New York and adjacent States are well suited to the production of Beets rich in saccharine matter, and their cultivation has been attended with encouraging results, so that the outlook for its general cultivation in these States as a source of sugar is bright, they reach their highest state of perfection in Nebraska and adjoining States.

Sugar Beets of the highest standard have been grown in New York and New Jersey, and a number of farmers and capitalists are already interested, the result of which is likely to be the building of Beet Sugar factories requiring a large annual supply of roots.

We would, therefore, advise every farmer to commence their cultivation at once. **Nothing can pay better for stock-feeding**, and he will gain experience in their culture and treatment so that when the demand arises for sugar-making purposes he will be ready to take up their extended culture intelligently.

Climatic conditions have a very important influence upon its value for sugar production. A medium temperature, averaging from 65 to 70 degrees during the summer months, and a clear, rather cool autumn, will be found most favorable to the development of the crop. Where such conditions prevail, and the soil is favorable, the Sugar Beet will attain its highest development and yield handsome profits.

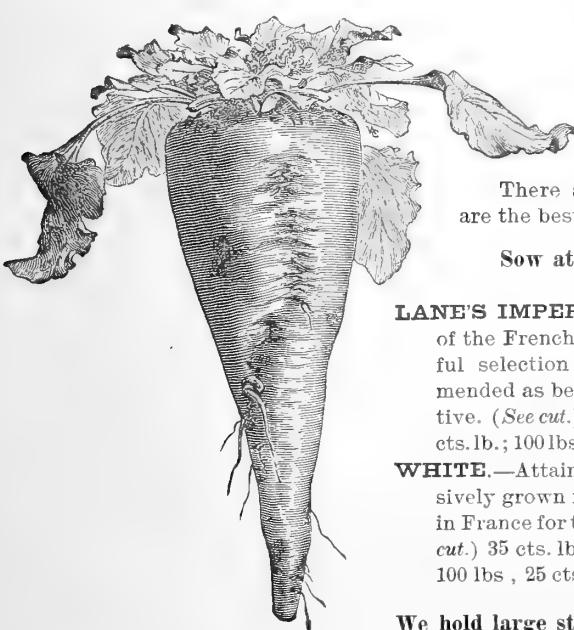
Beets do best after Wheat or some other grain crop, because, the crop being harvested early, the ground can be plowed in the fall—a prerequisite to successful Beet culture. Manure, especially if not thoroughly rotted, should be applied *to the previous crop*, or the Beets should be raised in rotation as the second or even third crop.

The seed should be sown from about the 10th of May until the 1st of June. After the latter date is too late, as they would not have time to mature before frost. Cultivation has a very marked effect upon the quantity and quality of the crop, but the nature of the seed is, after all, the main factor. **Very good**

seed never produces an altogether bad crop, while inferior seed cannot be brought, by any amount of skill in cultivation, to give a perfectly satisfactory result. Manuring is also an important point; mineral and chemical manures should be largely used, while heavy doses of nitrogen must be avoided.

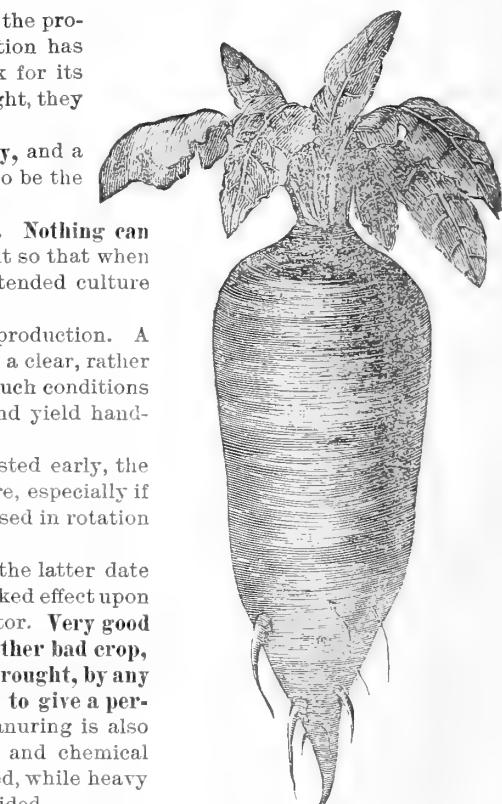
There are a number of varieties, but those we offer are the best in each class.

Sow at the rate of 12 to 15 lbs. per acre. Average yield, 20 to 25 tons per acre.



LANE'S IMPERIAL.—An improved variety of the French Sugar Beet, obtained by careful selection in this country, and recommended as being hardier and more productive. (*See cut.*) 40 cts. lb.; in lots of 10 lbs., 35 cts. lb.; 100 lbs., 30 cts. lb.

WHITE.—Attains a large size, and is extensively grown for feeding; largely cultivated in France for the manufacture of sugar. (*See cut.*) 35 cts. lb.; in lots of 10 lbs., 30 cts. lb.; 100 lbs., 25 cts. lb.



LANE'S IMPERIAL SUGAR BEET.

VILMORIN'S IMPROVED WHITE.—A greatly improved variety of the preceding, obtained by over 20 years' continued and systematic selection. The proportion of sugar in the roots, under ordinary circumstances, amounts to 18 to 20 per cent., while in other varieties the usual average is 12 to 15 per cent. Has yielded 30 tons and over per acre, and is unequalled for feeding cows and young stock. (*See cut.*) 55 cts. lb.; in lots of 10 lbs., 50 cts. lb.; 100 lbs., 45 cts. lb.

We hold large stocks of these Sugar Beets and are prepared to give SPECIAL QUOTATIONS to buyers of LARGE quantities.

VILMORIN'S IMPROVED WHITE SUGAR BEET.

Ruta Bagas, Russian or Swedish Turnips.



LONG ISLAND IMPROVED
PURPLE-TOP RUTA BAGA.

These come next to Mangels in importance for stock-feeding purposes, and can be sown much later. They grow very rapidly, and yield from twenty-five to thirty-five tons per acre, in good, rich, deep soil, with proper cultivation. The Ruta Bagas proper should be sown in this latitude from May 25th to June 25th; while the smaller-growing turnips can be sown from July 1st to the middle of August. If sown at the time mentioned, they should be planted in rows, 30 inches apart, and the plants thinned with a hoe to 12 or 14 inches apart; but if either sorts are sown a month later, they can be grown one-third closer, both in the rows and between the plants. Store for winter according to article in our book "How the Farm Pays."

Sow 2 to 3 lbs. per acre.

LONG ISLAND IMPROVED PURPLE-TOP RUTA BAGA.

This is undoubtedly the finest variety of purple-top Ruta Bagas, and is purely of American origin, having been originated by one of our Long Island growers. It is twice the size of ordinary American stocks, and although size is usually got at the expense of quality, the quality of this variety for domestic purposes is superior to any that we have tested. It is perfectly hardy. In a fair test on several Long Island farms, alongside some of the best European and American varieties, it produced almost twice the weight per acre of any other variety. (See cut.) 5 cts. per pkt.; 10 cts. per oz.; 25 cts. per $\frac{1}{4}$ lb.; 60 cts. per lb.

SKIRVING'S PURPLE-TOP.—A first-rate variety for stock or table; grows to a large size; flesh firm, solid and sweet, and a good keeper. 5 cts. pkt.; 10 cts. oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

SHAMROCK.—One of the finest purple-top varieties in cultivation; forms a handsome bulb, with small top and very few leaves; an excellent keeper and good for stock or table use. 5 cts. pkt.; 10 cts. oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

IMPROVED AMERICAN (Purple-Top).—An old leading variety; very hardy and productive; flesh yellow, solid, sweet and fine-flavored; equally good for stock or table use; one of the principal varieties raised by market gardeners, and was one of the best of all Swede Turnips until we introduced the "Long Island Improved." 5 cts. per pkt.; 10 cts. per oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

LAING'S IMPROVED.—One of the earliest of the Ruta Bagas; forms a handsome bulb of good quality; keeps well; good for stock or table use; 5 cts. pkt.; 10 cts. oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

LARGE YELLOW FRENCH.—Similar to the white in every respect, except as to color of the flesh. Price, 5 cts. per pkt.; 10 cts. oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

LARGE WHITE FRENCH.—A superior variety for table or stock; flesh firm, white and solid; attains a large size, and has a very rich and sweet flavor; a very popular variety. 5 cts. pkt.; 10 cts. oz.; 20 cts. $\frac{1}{4}$ lb.; 50 cts. lb.; 10 lbs., \$4.50.

TURNIPS SPECIALLY ADAPTED FOR STOCK FEEDING.

WHITE FLESHED.

PURPLE-TOP WHITE GLOBE.

One of the best early varieties grown; fine, thick globe-shape, of large size, rapid growth, and of extra fine quality; heavy cropper; in other respects similar to the Red Top Strap Leaf. A handsome-looking bulb, has become exceedingly popular, and is rapidly taking the lead of all other varieties of early turnip. It keeps well, and is unequalled for stock-feeding, table use or marketing. (See cut.)

YELLOW

YELLOW GLOBE.—One of the best varieties for general crop; flesh very firm and sweet, and keeps well until late in the spring; grows to a large size, and is excellent both for stock or table use.

GOLDEN BALL (Robertson's).—Rapid grower, excellent flavor, globe-shaped, and a beautiful, bright

POMERANIAN WHITE GLOBE.—Valuable alike for the table and for stock.

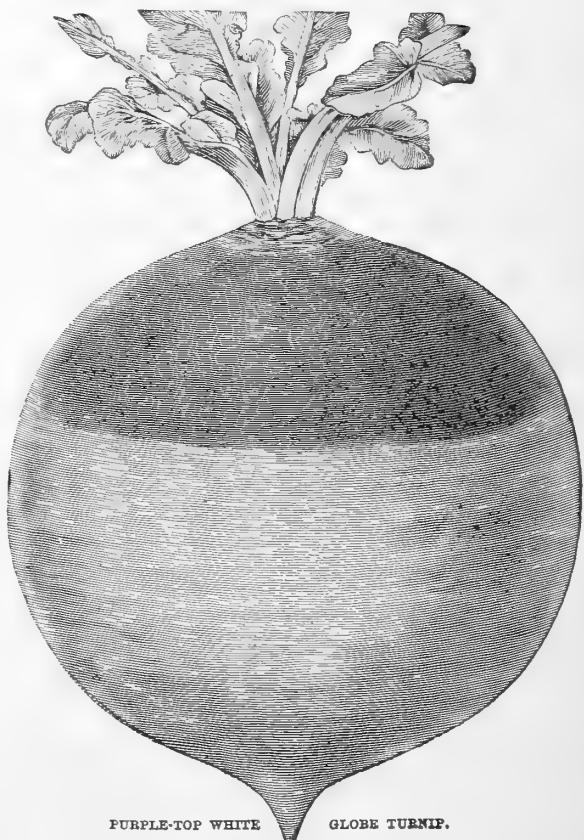
LARGE WHITE NORFOLK.—A very large-growing, globe-shaped variety; flesh coarse-grained and sweet; one of the best early varieties for stock.

LONG WHITE or COW HORN.—Matures very quickly; root shaped like a carrot, about half of which is formed above ground; flesh white, fine-grained and sweet, and of excellent quality.

FLESHED.

yellow color, a good keeper, and has no superior for either stock or table use.

YELLOW ABERDEEN.—Very hardy and productive, good keeper, globe-shaped; color, pale yellow, with purple top. Very firm in texture, and closely resembling the Ruta Bagas in good-keeping qualities; good for table or stock.



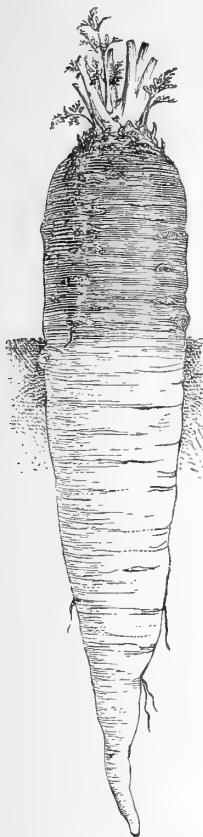
PURPLE-TOP WHITE GLOBE TURNIP.

Price, for any of the above Turnips, 5 cts. pkt.; 10 cts. oz.;
20 cts. 1-4 lb.; 50 cts. lb.; 10 lbs., \$4.50.

(If by mail in quantities of $\frac{1}{2}$ lb. and upward, add postage at the rate of 8c. per lb.)

MISCELLANEOUS ROOTS AND PLANTS FOR FORAGE AND SOILING.

CARROTS.



Sow seed in May in drills. Rows should be 2 feet apart and plants thinned out to 5 or 6 inches apart. Plow and cultivate as for Mangels.

If by mail in quantities of $\frac{1}{2}$ lb. and upward, postage must be added at the rate of 8 cts. per lb.

Carrots are grown chiefly for horses, and they are very fond of them. On good sandy soil and with good cultivation they yield 20 tons per acre. Sow 5 lbs. per acre. The BEST SORTS for stock are:

Long Orange Improved.—Of large size, fair specimens averaging 12 inches in length, with a diameter of 3 inches at the top. Color, orange red. 5 cts. pkt.; 15 cts. oz.; 40 cts. $\frac{1}{4}$ lb.; \$1.00 lb.; 10 lbs., \$9.00.

Danvers.—Color of this valuable sort is a rich shade of orange. Under the best cultivation it is said to have yielded from 25 to 30 tons per acre. 5 cts. pkt.; 10 cts. oz.; 25 cts. $\frac{1}{4}$ lb.; 80 cts. lb.; per 10 lbs., \$7.50.

Altringham.—A large and fine flavored red Carrot. 5 cts. pkt.; 10 cts. oz.; 35 cts. $\frac{1}{4}$ lb.; 90 cts. lb.; per 10 lbs., \$8.50.

Large White Belgian.—The lower part of the root is white; that growing above ground and exposed to the air, green. It is exclusively grown for stock. (See cut.) 5 cts. pkt.; 10 cts. oz.; 25 cts. $\frac{1}{4}$ lb.; 60 cts. lb.; per 10 lbs., \$5.50.

Large Yellow Belgian.—Similar to above except in color. Valuable for stock. 5 cts. pkt.; 10 cts. oz.; 25 cts. $\frac{1}{4}$ lb.; 60 cts. lb.; per 10 lbs., \$5.50.

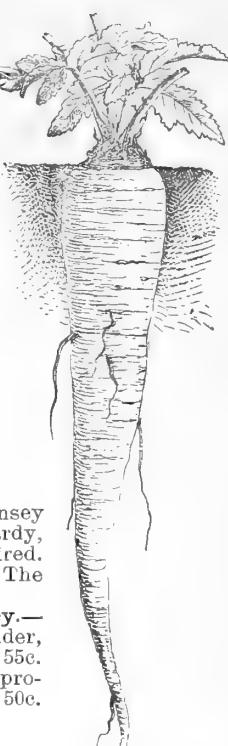
PARSNIPS.

These are excellent for dairy cows and extensively grown in the islands of Jersey and Guernsey for this purpose. They possess nutritive properties of the highest quality. Being perfectly hardy, they can be left in the ground all winter if required for use in the spring, or be dug as desired. Frost makes them sweeter and more tender. Sow 8 lbs. per acre as per directions for Carrots. The

BEST SORTS for stock are:

Long Smooth Hollow-Crowned, Cup of Guernsey.—Roots very long, white, smooth, free from side roots, tender, sugary, and most excellent-flavored. (See cut.) Per lb., 55c.

Large Jersey.—An excellent variety, very large and productive. Per lb., 50c.



LONG SMOOTH PARSNIP.

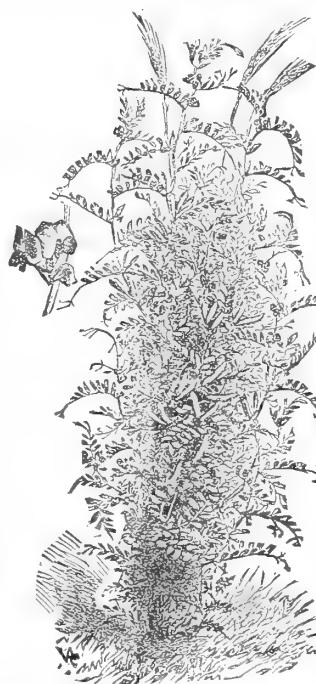
ARTICHOKEs, Jerusalem.

A hardy perennial, forming roots like a potato. They yield abundantly, frequently 500 to 1,000 bushels per acre, making excellent feed for stock, especially for hogs. Of the easiest culture. In some parts of the South the tops are cut and cured for hay. 25 cts. per qt., or by mail 40 cts. per qt.; \$4.00 per bushel.

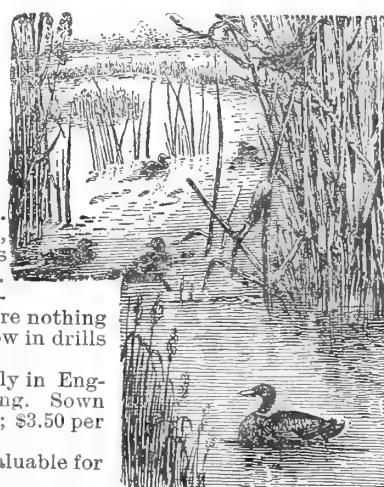
YARROW or MILFOIL.

(*Achillea millefolium.*)

A hardy perennial plant, sometimes grown on account of its highly astrigent properties, being an excellent appetizer for stock. It imparts a delicate flavor to butter and mutton. Should be mixed with permanent pasture grasses. Succeeds on poor, dry pastures, and stands severe droughts. \$1.50 lb.



SPRING VETCHES.



WILD RICE.

WHITE BELGIAN CARROT.

CABBAGE, Champion Ox.

A large, coarse growing variety, yielding an abundance of luxuriant leaves; valuable for feeding stock, and largely grown for cattle, as it improves the milk. \$1.50 per lb.

Fenugreek.—An annual plant, growing about 2 feet high, requiring a warm, sunny situation. Cultivated for medicinal and veterinary purposes. It has a powerful odor, and is used for flavoring concentrated cattle foods and for rendering damaged hay palatable. Sow 20 to 30 lbs. per acre. Price, 50 cts. per lb.

Kale, Thousand Headed.—Excellent for green feed for sheep and other stock. Price, \$1.00 per lb.

Field Lupins.—When young the plants are good for sheep, the Yellow variety remaining green longer than the White. The Lupin is one of the best plants known for soiling. It may be sown from April to July, and succeeds well in the poorest soil; and many lands formerly poor have had their value greatly enhanced by plowing in the Lupins. Weight per bush., 60 lbs.; 25 cts. per lb.; \$15.00 per 100 lbs.

PEAS, Canada Field.—(See cut.) These are considered superior to the Field Vetch or Tares for soiling purposes, and come very serviceable for Green Fodder. It is a crop that matures very quickly and on that account is invaluable as a "catch crop." They may be sown broadcast or in drills. Sow about 3 bush. per acre.

White or Blue.—Strong growing and very prolific. Pk., 75c.; bush., \$2. 10 bush. lots, \$1.75 bush.

COW PEAS.—Adapted to Southern localities; also valuable in this latitude as a fodder plant, sheep being very fond of them when in flower, when they will eat the entire plant. Its chief value is as a green crop to plow under. Sow 1 bush. to the acre. Bush., \$3; 10 bushel lots, \$2.85 per bush.

SARRADELLA.—This in Portugal is a valuable annual agricultural plant and worthy of attention, from the fact of its producing an abundant crop of excellent fodder on dry, sandy soils where nothing else will thrive. It is excellent for sheep and of value to plow under when green for fertilizing. Sow in drills 20 to 30 lbs. per acre. Price, 20 cts. per lb.; by mail, 30 cts.

SPRING VETCHES or Tares (*Vicia sativa*).—A species of the pea, grown extensively in England, and to a considerable extent in Canada, for stock, and sometimes mixed with oats for soiling. Sown broadcast like wheat or barley at the rate of 2 to 3 bush. per acre. (See cut.) Price, 10 cts. per lb.; \$3.50 per bushel of 60 lbs.

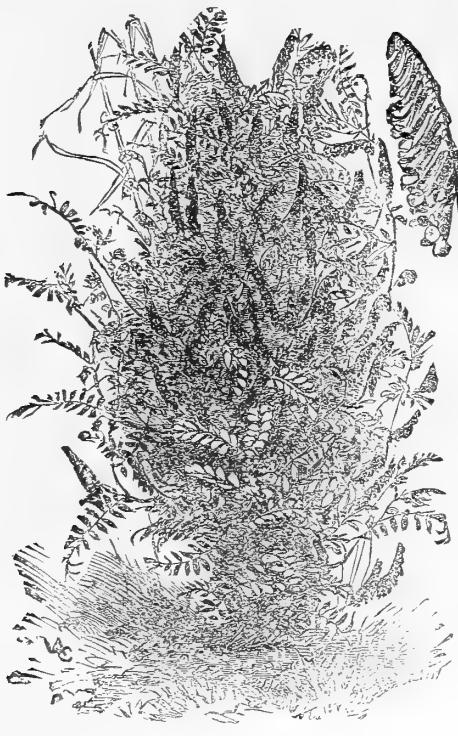
ENGLISH RAPE.—Not a Ruta Baga, but closely allied; grown for its tops, which are valuable for feeding stock; it forms no bulb. 15 cts. lb.; \$5.00 per bushel; \$9.00 per 100 lbs.

SUNFLOWER (Mammoth Russian).—Single heads measure 12 to 20 inches in diameter and contain an immense quantity of seed, highly valued as an excellent and cheap food for fowls. They eat it greedily, fatten and get strong and healthy. It is the best EGG PRODUCING FOOD known. It can be raised cheaper than corn. The seed is also excellent food for horses, and it makes a fine quality of oil. Plant seed in any waste piece of ground, from early spring to the middle of July. It is a wonderful improvement on the old sunflower. Four quarts of seed will plant one acre. Price, 15 cts. per lb.; \$3.00 per bushel; \$10.00 per 100 lbs.

Buyers of LARGE quantities of FIELD PEAS, etc., should write for special prices.

For full description and price, see page 24.

MISCELLANEOUS AGRICULTURAL SEEDS.



THE VILLOUS VETCH.

New Hardy Forage Plant.

THE VILLOUS VETCH (*Vicia Villosa*).

A splendid forage plant which, though new to the United States, has for several years been held in high repute by the farmers of Holstein, a district well known for the excellence of its farming.

We experimented with it and are delighted with the early and abundant forage which it produces. Its cultivation is easy; sowing the seed broadcast at the rate of $\frac{1}{2}$ bush. —30 lbs.—per acre, and covering the seed with a harrow and roller being all that is necessary.

It succeeds on all soils, is hardy, and does not suffer from

drought, rendering it particularly valuable for the Southern States. It may be sown in the fall and will produce early in the spring a heavy crop of nutritious herbage, and will be found a profitable plant, whether for feeding green, putting in the silo or plowing under. It may also be sown in spring or during summer, and by reason of its quickness of growth, occupying the ground but a short time when a heavy crop can be cut or plowed under, it may be properly termed a "catch crop."

For plowing under for green manure we believe that it will soon take the place of Cow Peas, Soja Beans and other plants used for this purpose. (See cut.)

Price, \$6.50 per bush. of 60 lbs.; 15 cts. per lb. Sow at the rate of 30 lbs. per acre.

NEW FODDER PEA, THE "MUMMY."

We have pleasure in recommending this Pea for soiling or fodder purposes, either in mixture or by itself, for cultivation north of Maryland. In Canada it is grown largely for this purpose and to the exclusion of all others. We have seen it there, under ordinary farm cultivation, yield at the rate of 60 bushels dry grain per acre. It is quite distinct from anything in the pea family, inasmuch as it has a very strong, stocky vine, bearing all or nearly all its blossoms on the top in cockscomb fashion.

A field of this variety when in full bloom is a striking sight, being from its peculiar habit of growth a sea of white blossom.

This variety will in time entirely supersede the ordinary Canada Field Pea.

Price, \$2.50 per bush. of 60 lbs. Sow at the rate of $2\frac{1}{2}$ to 3 bush. per acre.

WILD RICE (*Zizania aquatica*).—An annual which sows itself in the fall, about middle of September, lies dormant all winter, in spring commences to sprout as soon as the water gets warm, reaching the surface during the first half of June. It grows very rapidly, in one to eight feet of water, ripens late in August or early in September. It succeeds best when sown in the fall broadcast, from a boat, in two to three feet of water having a mud bottom, but it can be sown in the spring. As an attraction for wild fowl it cannot be equaled. In large ponds and lakes it purifies the water, affords plenty of food and refuge for small and large fish. (See cut, page 23.) Price, 25 cts. per lb., or by mail, 35 cts. per lb.; per 100 lbs., \$20.00.

THE BURLINGAME MEDIUM BEAN.—This is a very early, very hardy, and very prolific Bean, yielding from 50 to 100 per cent. more than the ordinary medium beans grown for commercial purposes. It is a little smaller in the grain, is whiter, and far handsomer in appearance. During the past two seasons, when nearly all beans were seriously damaged by the wet weather, this variety came in bright and handsome, and required far less handpicking than the ordinary sorts. It is estimated that this bean has been worth hundreds of thousands of dollars to the farmers of Genesee Co., who now grow it exclusively. \$1.50 per peck; \$4.50 per bushel of 60 lbs.

IMPROVED RED KIDNEY BEAN (New).—This is strictly an agricultural bean, and is not used or intended for garden purposes. It will, doubtless, be as popular over the ordinary red kinds as Burlingame's Medium or Marrowfat are in their particular line; and as Red Kidneys are not as generally distributed throughout the country as Marrows or Mediums, we anticipate as great a demand for this variety as for either of the others. This bean is much more prolific than the ordinary Red Kidney, or "Red French," as it is sometimes called, and is less liable to receive damage from rain. Price, \$1.50 per peck; \$5.00 per bushel of 60 lbs.

THE BOSTON SMALL PEA BEAN.—This Bean is early, hardy, prolific, and is altogether a very desirable variety. The ripened seed is small, round and handsome. It has never failed to give 40 to 60 fold, and in some instances has yielded 100 fold with ordinary field culture. The vine is a rank grower with profuse foliage, and the pods grow mainly in clusters of four. 123 good pods have been picked from one plant, the pods averaging six beans each. We consider it superior to the Snowflake Pea Bean. Price, \$1.50 per peck; \$4.50 per bushel of 60 pounds.

SOJA or JAPAN BEAN. (*Glycine hispida*.)—A variety altogether distinct from any other Bean. The haulm is strong and vigorous, and covered with a soft fur. The pods contain four to five small Beans of a yellowish brown color. This Bean is very suitable for growing in the South, and is used largely for plowing under. In Japan the beans are used principally for making "Tofu" or bean curd. Per lb., 20 cts.; per bushel of 60 lbs., \$6.00.

WHITE MARROWFAT or NAVY BEAN.—The variety so extensively grown for sale in the dry state. Also valued as a string bean. Seeds ivory white, and larger than either the Burlingame Medium or Boston Pea Bean. \$1.25 per peck; \$4.25 bushel of 60 pounds.

ALFILARIA. (*Erodium cicutarium*.) A plant belonging to the geranium family, of much value for pasture over a large area in California, Mexico and New Mexico. Where other and better forage plants can be grown it is regarded as a weed, though not very troublesome. It is also known as Storksbill, Pingrass and Filaree. It starts very early, grows rapidly, furnishing good, early pasture. It is of little value for hay. Price, \$1.50 per lb.

CHICORY (Large Rooted).—A hardy perennial plant, forming roots like a carrot; these are roasted, and used as a substitute or for adulterating coffee. Cultivate same as carrots. Price, 10 cts. oz.; 30 cts. $\frac{1}{4}$ lb.; \$1.00 lb.; by mail, \$1.10.

COTTON (Sea Island). 15 cts. per lb.; \$10.00 per 100 lbs.

COTTON (Upland). 15 cts. per lb.; \$10.00 per 100 lbs.

FLAX SEED (*Linum usitatissimum*).—Sow late enough in the spring to avoid frost, and early enough to secure the early rains. When sown for seed put in $\frac{1}{2}$ bushel per acre; if grown for fibre sow $\frac{3}{4}$ bushel per acre. Cut before quite ripe, and, if the weather be dry, let it lie in the swath a few hours, when it should be raked, bound and secured from the weather; thresh early in the fall. Price, 25 cts. per quart; by mail, 40 cts.; \$4.00 per bushel.

OPIUM POPPY (*Papaver somniferum*). It grows from 2 to 3 feet high. It is principally grown for the production of Opium, although the seeds contain a great deal of oil which is used for several purposes, and the Syrup of Poppies is made from the capsules. Price, per oz., 20 cts.; per lb., \$1.25.

OSAGE ORANGE (*Machura aurantiaca*).—The Osage Orange can be grown in most parts of the United States, and makes one of our best hedge plants. The ground should be thoroughly pulverized, by either plowing or spading, before the seed is planted. The surest way is to sprout the seed before planting, as it is very slow to germinate. Price, 50 cts. per lb.; \$40.00 per 100 lbs.

RAMIE (*Bohemera* or *Urtica*).—This plant produces the fibre which the Orientals make into a delicate fabric known as Chinese Grass Cloth. It is now being cultivated quite largely in the Southern States. The best variety is *Bohemera Nivea* (*Silvery Ramie*).—50 cts. oz.



Henderson's
TERRACE
SOD
• MIXTURE.

A special mixture of grasses of varieties best suited for sowing on terraces, railroad embankments and side hills. For this purpose it is necessary to use grasses that will withstand drought and exposure and thrive well on shallow soils. Our combination of grasses for the purpose will be found unequalled—grasses that produce strong, spreading roots, thus preventing heavy rains from washing them out after they become established, and at the same time produce a rich velvety green turf throughout the season.

Sow at the rate of 1 quart for a plot 15x20 feet (equal to 300 sq. ft.) or 4 to 5 bushels per acre.

PRICE:

35 cts. per quart, \$2.00 per peck, \$7.00 per bushel. (If desired by mail, add at the rate of 5 cts. per quart for postage.)

"THE HENDERSON"
Lawn Grass Seed

Weighs from 20 to 21 lbs. per measured bushel.

Other Lawn Mixtures do not average over 14 lbs. to the bushel.

The Purest, Cleanest and Heaviest Lawn Grass Seed Ever Offered!

THAT the "HENDERSON" is the finest mixture of Lawn Grass Seed ever offered, the immense quantity we annually sell is the best proof we can offer. It is the best lawn seed for our American climate, and is composed of various grasses that grow and flourish during different months of the year, so that a rich, deep green, velvety lawn is constantly maintained. The **HENDERSON LAWN SEED** is the result of several years' careful experimenting, and as we now offer it the mixture is **unequalled**. It may not also be generally known that it is, relatively speaking, the **cheapest seed offered**, because while the lawn grass mixtures of other seedsmen *will not average* over 14 lbs. to the bushel, the **HENDERSON LAWN SEED** will weigh from 20 to 21 lbs. per measured bushel. The quantity required for making new lawns is 5 bushels per acre, or for renovating old lawns 1 to 2 bushels. For a plot 15x20 or 300 square feet, 1 quart is required for new, or 1 pint for renovation.

PRICE: 25 cts. per quart, \$1.50 per peck, \$5.00 per bushel. (If by mail, add at the rate of 5 cts. per quart for postage.)

HENDERSON'S "SUNNY SOUTH" LAWN GRASS.

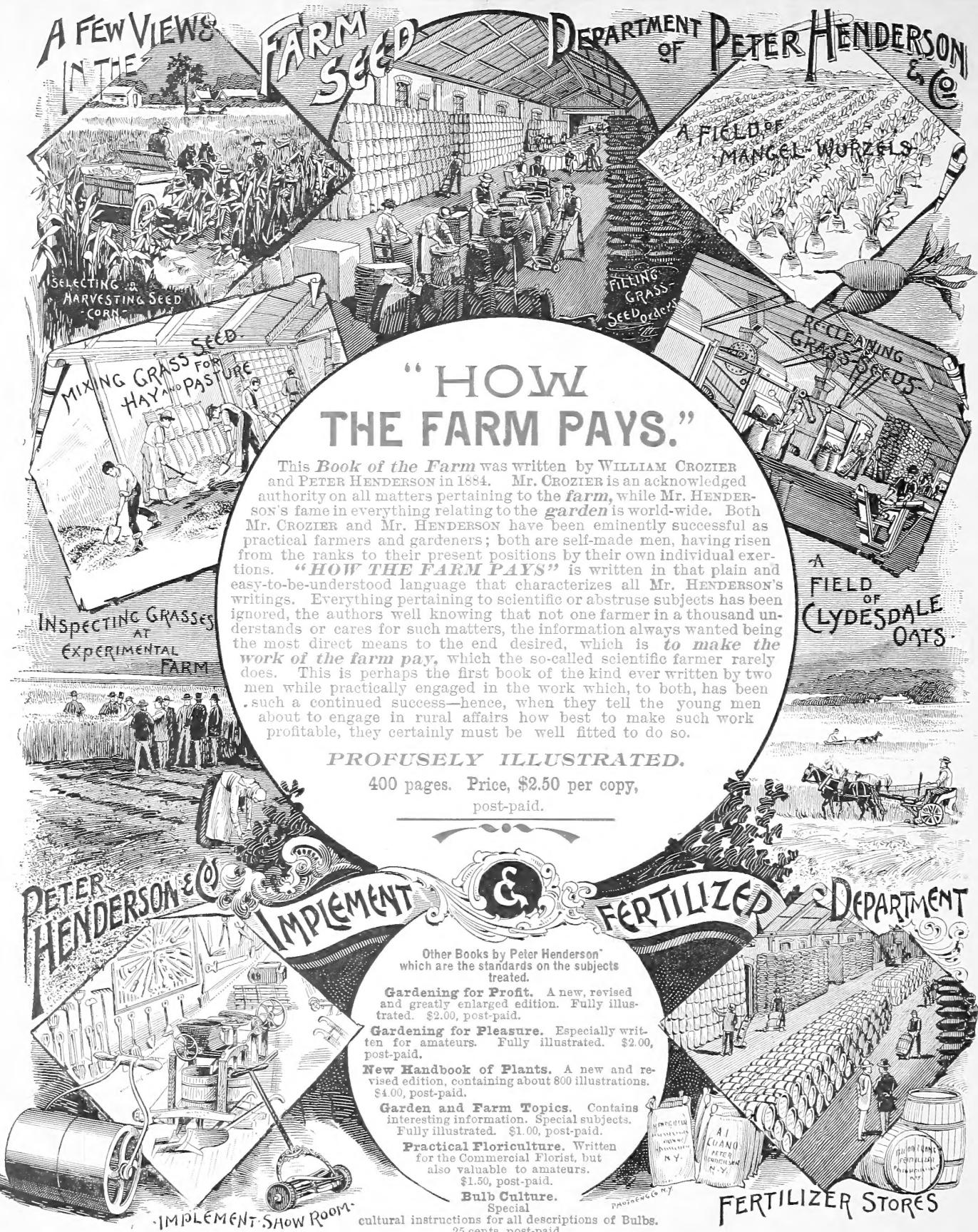
A Special Mixture of Lawn Grass for the South. Is specially prepared for very dry sections, and contains all the best grasses that are by nature adapted for the South. Price, \$7.00 per bushel, \$2.00 per peck, 35 cents per quart. (If by mail, add at the rate of 5 cts. per quart for postage.)

OUR MANUAL OF

"Everything for the Garden"

(156 pages; size, 11 x 8 $\frac{3}{4}$ inches)

Is this year sent out in a handsome, illuminated cover; is replete with New Engravings of the **Choicest Flowers and Vegetables**, many of which can **only be obtained from us**, and contains, besides, **eight beautiful Colored Plates** and very full instructions on garden work. Will be mailed free to all purchasers, or sent on receipt of 25 cents in stamps, which entitles the purchaser to 25 cents' worth of seeds.



This *Book of the Farm* was written by WILLIAM CROZIER and PETER HENDERSON in 1884. Mr. CROZIER is an acknowledged authority on all matters pertaining to the *farm*, while Mr. HENDERSON's fame in everything relating to the *garden* is world-wide. Both Mr. CROZIER and Mr. HENDERSON have been eminently successful as practical farmers and gardeners; both are self-made men, having risen from the ranks to their present positions by their own individual exertions. "**HOW THE FARM PAYS.**" is written in that plain and easy-to-be-understood language that characterizes all Mr. HENDERSON's writings. Everything pertaining to scientific or abstruse subjects has been ignored, the authors well knowing that not one farmer in a thousand understands or cares for such matters, the information always wanted being the most direct means to the end desired, which is *to make the work of the farm pay*, which the so-called scientific farmer rarely does. This is perhaps the first book of the kind ever written by two men while practically engaged in the work which, to both, has been such a continued success—hence, when they tell the young men about to engage in rural affairs how best to make such work profitable, they certainly must be well fitted to do so.

PROFUSELY ILLUSTRATED.

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which are the standards on the subjects
treated.

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FERTILIZER STORES

IMPLEMENT SHOW ROOM

